MACDONALD COLLEGE JOURNAL

VOLUME 3
No. 10

JUNE
1943

Farm · Home · School

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- Reliable electrical equipment is saving all sorts of things that have wartime value.
- Electrical refrigeration saves tons of food every day—makes it keep longer—brings it to the table in perfect condition.
- Electrical appliances are saving labour all over the country—cleaning carpets, washing and ironing clothes, milking cows, separating cream, and performing countless other useful tasks.
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THE MACDONALD COLLEGE JOURNAL

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EDITORIAL COMMENT

Two and a half years ago, Macdonald College decided upon a bold undertaking, namely, to found a new farm journal devoted to the interests of the farm, the home and the school. That this meant an added burden to a very busy staff and a decided financial risk in a very uncertain time, was well understood. In our opening editorial, we gave our reasons for embarking on this new venture in these words:

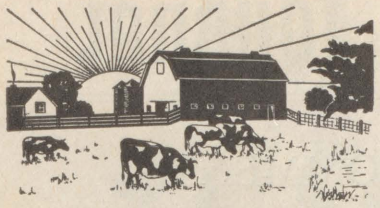
"In view of the grave and disastrous events of the past weeks the question may well be asked, "Why a new farm paper?" It is our conviction that, however the struggle may go from now on, some form of regimentation of industry is inevitable, and it may well be that the greatest amount of regimentation will be in agriculture. The need for accurate information, for guidance and for counsel, has become imperative. For the farmers of Quebec, for the people generally, a medium of publicity that will furnish them with all this is a vital necessity. The editors of this journal have taken on themselves the responsibility of keeping in close touch with the situation with the intention of passing it on to their readers. We only ask our readers to help us to help them."

How well we have achieved our aims is for our readers to say. They, on their part, have supported us with their subscriptions and have encouraged us by their helpful comment. The Journal has become the official organ of the Women's Institutes of Quebec, the Quebec Beef Cattle Association and other organizations. It has been privileged to support the Farm Forums, the Community Schools and associated enterprises. It has kept its readers in touch with government policies of importance to them, has endeavoured to explain and interpret new trends and discoveries in agriculture, marketing and in rural education. It has given news regarding agricultural activities and personalities, and it has been an essential instrument to promote our own programme of adult education. The articles appearing in this number indicate the type of material prepared for the information and use of our readers, and incidentally, some of the widespread activities of our staff.

The continued support of our readers is necessary to enable us to achieve our purpose in founding the Journal.

THE COVER

For our cover picture this month we have chosen a photograph of the Main Building at Macdonald College. The photo was taken from the steps of the Men's Residence last summer by Prof. E. W. Crampton.



AGRICULTURE

Articles on problems of the farm

Pasture and Fertilizers

by J. A. Ste. Marie Superintendent, Dominion Experimental Station, Lennoxville, Que.

Pasture is the cheapest and best feed for the growing of animals for the production of beef, milk and wool. Pasture acreage in the province of Quebec totals more than one quarter of the occupied agricultural land. This means millions of dollars invested in pasture land. Of this acreage at least one third is unimproved and may have been used as such for years and years. Farm surveys have revealed that three to eight acres of land may be required to pasture an animal unit, a condition tending to lower materially the total financial returns of the farm.

Owing to the economic importance of the subject, numerous experiments have been and are being conducted by the Experimental Farms and other institutions, in order to bring to the farmer the information that will enable him to obtain the maximum returns from such land, while contributing to reduce the cost of producing either beef, milk or wool and mutton.

The writer would like to quote the results obtained with an experiment carried at the Lennoxville Experimental Farm on the improvement of an old permanent pasture, through the use of chemical fertilizers, on a sandy loam soil where the grass covering was fair, yearling and two-year old Shorthorn cattle being used on the said pastures and cages to determine the reaction of the fertilizers used through green weight and dry determination.

TREATMENT	YIELD PER ACRE Green Weight 4-year average lb.	Dry Weight 4-year average lb.
Check	17,079	3,969
600 lb. 4- 0- 0 every 3 years	18,217	4,289
600 lb. 0-12- 6 every 3 years	21,925	4,713
600 lb. 0-16- 6 every 3 years	24,539	5,094
600 lb. 2-12- 6 every 3 years	23,734	5,003
600 lb. 4-12- 6 every 3 years	24,164	5,257
600 lb. 8-12- 6 every 3 years	28,133	5,984
600 lb. 0-12- 0 every 3 years	19,747	4,574
600 lb. 0-16- 0 every 3 years	25,688	5,663
600 lb. 4- 0- 6 every 3 years	17,830	3,999
600 lb. 4- 6- 6 every 3 years	21,266	4,694
600 lb. 0- 0- 6 every 3 years	19,487	4,301
600 lb. 4-12- 0 every 3 years	21,289	5,113
600 lb. 4-12-12 every 3 years	25,331	5,149
450 lb. 4-12- 6 every 3 years	22,415	4,937
200 lb. 4-12- 6 annually	22,415	4,943
600 lb. 4-12- 6 nitrogen annually minerals every 3 years	24,497	5,360
1 ton lime every 3 years	17,593	4,151
2 tons lime every 3 years	18,991	4,405
1 ton lime and 600 lb. 0-12- 0 every 3 years	21,405	4,852
1 ton lime and 600 lb. 0-12- 6 every 3 years	24,702	5,517
1 ton lime and 600 lb. 4-12- 6 every 3 years	24,395	5,257

From the above table it will be noted that no matter the combination of fertilizers used, all produced increased growth of grass above the check with the exception of the plots receiving an application of 4-0-6 or of one ton lime every three years.

It will also be noted that the highest yield of grass was obtained with the formulae 8-12-6 but attention is called to the fact that all plots receiving nitrates produced an abundance of grasses in early spring and less in mid-summer which is an objection in this section of the province.

The reader should also note that numerous fertilizer formulae have produced very similar results and that on the whole the formulae with superphosphate only or superphosphate with potash or the same plus lime stand rather high.

But above all the farmer will be interested in using fertilizers to improve his pastures if the cost of the increased grass growth is economical and the following table gives the cost per ton green weight increased over the check.

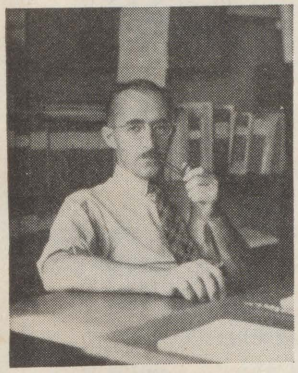
TREATMENT	4-year average cost per ton green weight increase $
600 lb. 2-12-6 every 3 years	.68
600 lb. 4-12-6 every 3 years	.75
600 lb. 8-12-6 every 3 years	.62
600 lb. 4-12-6 nitrogen annually minerals every 3 years	1.18
600 lb. 4- 0-0 every 3 years	1.37
600 lb. 0-12-0 every 3 years	1.00
600 lb. 0-16-0 every 3 years	.41
600 lb. 0-12-6 every 3 years	.78
1 ton lime — 600 lb. 0-12-6 every 3 years	.74

Of the formulae quoted it will be noted that the cost of a ton increase of growth of green grass has varied from 41 cents to $1.37. When one realizes that a ton of green corn costs from $2.00 to $3.00, a ton green oats or oats and peas from $4.00 to $6.00 it will be realized how great are the possibilities of growing economical feed through grasses through the judicious usage of fertilizers.

Such practice would make possible the reduction of the acreage required per animal unit, liberating acres for grain and other crops. But above all in most cases it would contribute to make it possible to increase production at a cheaper cost of meat, milk or mutton and wool.

To Lime or Not to Lime?

by W. A. DeLong



Some time ago I was talking to a farmer who told me, "I've limed that field twice but the hay now isn't so good. Guess it's time to lime it again." The field about which this farmer was talking has since been used for experimental purpose. It has been limed and it has been fertilized, and it has been found that in this instance the farmer was wrong. The field did not need liming at that time, since further liming of parts of it has given no definite increase in grain or hay over parts left unlimed. What it did need was phosphate and potash. It has been found that when these are supplied the yield of oats may be increased by as much as twenty-five bushels per acre, and the yield of hay from the new seeding by as much as one and one-half tons per acre.

It is to be feared that other farmers may be making the same mistake as that of my friend. There is an old adage which runs like this,

Lime and lime without manure
Will make both farm and farmer poor.

Manure in this instance means plant food, whether it comes from barn-yard manure or commercial fertilizer. Lime is a plant food, it is true, but it is a single plant food only. You would not expect your horse to work well on hay alone. Then why expect the soil to work well on lime alone?

Further, while lime is a plant food it is, in most instances, used to "sweeten" the soil, that is, to neutralize the injurious acid of sour soils. It takes much more lime to do this than it does to grow a crop, and, once this has been done, the lime has done the chief job which it was intended to do. Of course, in our moist climate lime is continually being washed out of the soil. Therefore, even if you have limed a field, it will, at some time in the future, need liming again. If you think your soil needs lime have a sample tested by the provincial or federal department of agriculture, at one of the agricultural colleges, or by some other competent agency, any of which will supply instructions for the taking of the sample, will tell you whether or not your soil needs lime, and will suggest the amount which you should apply.

And last, but by no means least, do not expect the liming of your soil to cure all of your soil fertility troubles. Strongly acid soils are usually more or less lacking in phosphate, and sometimes in potash as well; just as was that of my farmer friend mentioned earlier.

A Simple Test

It is not a very difficult matter to satisfy yourself as to whether or not your soil will give better results when phosphate and potash also are supplied. Thus, to test the need for phosphate, when you are ready to seed down after liming sow some superphosphate on a part of the field at the rate of say, 250 pounds to the acre. To test the need for potash, sow some 0-12-10 fertilizer on another part of the same field at the rate of about 400 pounds per acre. This will give you about the same quantity of phosphate as before with potash in addition. It is necessary of course to leave a part of the field without fertilizer for comparison. It is also necessary that the whole area in the experiment should have had a similar history, for example, it should all have been in sod, or in grain, etc., the previous year. It is also highly desirable to mark clearly the strips receiving each treatment and that getting no treatment, and to make a record of this as well. Memory is a treacherous thing, and next summer when you are cutting the hay from these strips, you will want to know just what you did this spring and where the different treatments were, especially if either of the fertilized strips shows a marked improvement in the stand and yield of clover. If you get better results on the 0-12-10 fertilizer strip than on that getting superphosphate it will indicate that your soil needs potash and that you should use the 0-12-10 fertilizer rather than superphosphate, that is, provided that the increased yield will, in your opinion, justify the increased cost. Before coming to a final decision respecting the kind and amount of fertilizer that you should buy in order to get best results from your grain and hay, it will be well to watch those strips for another year or two since the effects of phosphate and potash may make themselves felt in the yield and persistence of stand of timothy as well as in the clover crop.

To sum up, liming is not a cure-all for soil ills. It is often desirable and beneficial. Frequent liming without fertilization may be either uneconomical or injurious or both. Where liming is needed phosphate usually is required also, and sometimes potash as well. Close attention to the behaviour of the crop where lime and fertilizers are used will make farming more interesting and will also pay dividends.

Teacher: "Every day we breathe oxygen. What do we breathe at night, Willie?"

Willie: "Nitrogen."

Research Serves Poultrymen

by N. Nikolaiczuk Lecturer in Poultry Husbandry

A research program can have immediate practical application only where its aims are closely co-ordinated with the actual needs of the industry. It is most fortunate that such co-operation between the Quebec Poultry Industry Committee, as a melting pot for practical problems, and the Poultry Department has existed. The outgrowth of this unanimity in purpose has been the full appreciation of current problems as they affect poultrymen. As a consequence, one phase of research at Macdonal College has been devoted entirely to replacement value of feeds insofar as the current wartime need has arisen.

Successful Replacement in the Past

Prior to 1942 mixed poultry feeds were of fairly standard composition. Yellow corn was the staple cereal, but, with increasing difficulty of import and prohibitive cost, it could no longer be used extensively in poultry rations. Substitutes were sought with the result that wheat became the top-ranking cereal. Experimental results obtained at Macdonald College showed that its replacement value with certain protein supplements was even superior to yellow corn in chick starters. Recent data from Cornell University shows this to hold true for laying birds as well. These findings in a great measure solved the problem of wartime cereal adjustment in mixed poultry feeds.

The Current Shortage

A situation of more serious proportions now confronts poultry feeders. It is the lack of ample animal protein feeds. Like the pig, the chicken requires some animal protein for most efficient growth. The same is true for egg production. For both growing and laying stock this requirement has been established at approximately 20 per cent of the total crude protein of the ration. Despite the recent Feed Administrator's Order, which was designed primarily to make possible the wider distribution of the supplies of animal protein, reports continue to show that animal protein is the limiting factor in production of poultry mixed feeds.

What Can be Done

Feeding trials, both completed and in progress at this institution, demonstrate that this shortage can be relieved in some measure.

(a) Chick growth responses can be satisfactorily main-

(Continued on page 7)

Agricultural Engineering A Service to Farmers

by L. G. Heimpel

Chairman, Department of Agricultural Engineering

In pioneer days the farmer was his own engineer. His tools were made of wood, and often of splendid design and workmanship; his buildings were made of logs, and though crude, they were comfortable and answered the purpose for which they were made. Even his tillage implements were of wood and there was no great variety; a plow and a crude home made harrow usually completed the list.

Pioneer farming, however, could not be expected to be of long duration on a continent where millions of acres of fertile land beckoned to the resourceful men of pioneer days. In 1831 the reaper was invented and soon after came the binder which made it possible for one man to harvest with machinery many times as much as could be harvested with the cradle. This was the birth of mechanized farming. Since then the American continent has been known to the world as a land of plenty.

However, increased man efficiency in farming was quickly capitalized in the form of industrial development, and it was not long before thousands of men from rural districts moved to the cities where higher wages have always been offered than the farmer could pay. As a result, farmers have been obliged to mechanize still further in order to get their work done on time with what help was available, and to produce in sufficient volume to maintain a decent standard of living.

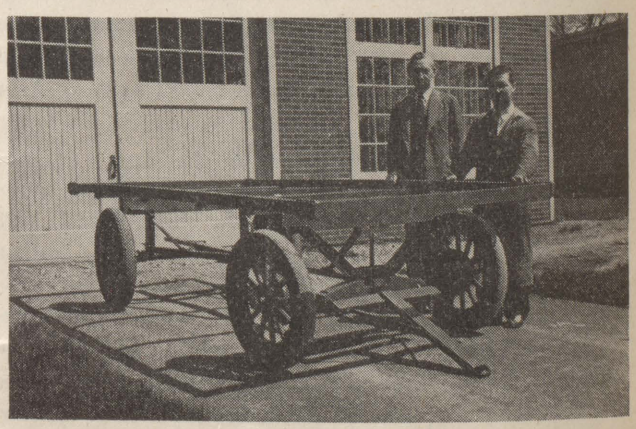
Machinery became more intricate and ordinary native ingenuity today is no longer sufficient to meet the diversified mechanical knowledge and skill required in its maintenance. This condition gave rise to a new branch in technical agriculture, Agricultural Engineering.

To the farmer the Department of Agricultural Engineering at Macdonald College is first and foremost a service department. More and more within the last twenty years, farmers are coming to the College with their mechanical problems. At first these problems were dealt with by letter, or when possible, by visits to the farm. Soon their volume became so great, however, that it has been necessary to write circulars which could be duplicated in large numbers and sent to inquirers instead of the much more expensive letter. The standard building plans, for such buildings as could be standardized, were next developed, and today there are available from the Department of Agricultural Engineering several hundred circulars and blueprints. Printed lists of this information and plan service have been issued from time to time and these will be sent free to anyone asking for them. A small charge is made for most of the plans and circulars to cover the cost of reproduction and mailing, this price being stated in the plan list.

Since the inception of this information and plan service tens of thousands of pieces of literature and plans have been sent to farmers, not only in Quebec, but all over Canada. During the last two years about four thousand pieces of literature have been mailed each year.

Home made equipment of all kinds is featured in this information service, and in all cases it is the object of the designer to embody in the plans sound engineering and scientific principles otherwise found only in commercial equipment of high price. For instance, concrete milk cooling tanks have long been made by farmers, but a properly made insulated cooling tank will keep milk cooler with half the ice needed in an uninsulated tank. Farmers should have good water systems in both house and barn, and here again the Agricultural Engineer has worked out systems, which, with the correct type of pump and distribution arrangement, will be much more satisfactory than one likely to be installed without this assistance. The old log barn with poles for the ceiling on which straw and hay were stored in the loft, and with chinks in the wall through which air could pass freely, had no ventilation problem. Indeed there was often too much ventilation. Today sanitary requirements of the cities where the farmer sells his milk demand improved sanitation in stables, and immediately ventilation becomes a problem. Lumber and timber were things to be destroyed in order to clear the land not many generations ago. Today much time is spent by building designers in their efforts to make stronger buildings with less lumber.

Another of the important problems of the farmer in the solution of which the Agricultural Engineer has been very useful, is land drainage. With the farmer the limit of his interest in drainage ends with the line fences of his farm. To the drainage engineer, however, the limits of drainage areas are much larger. In order to solve the problems of one farm it is frequently necessary to consider the drainage of a whole drainage basin or watershed. Drainage outlets have been greatly improved during the last twenty years by the policy of the Provincial Government, under which



A home-made wagon, built from an old auto chassis by Prof. L. G. Heimpel *(left)* and J. H. Cooper of the Department of Agricultural Engineering.

large numbers of outlet ditches have been constructed to remove flood waters from large areas suffering from the lack of such facilities. However, in order that the farmer may profit to the greatest possible extent from such outlets it is necessary to improve the drainage of his own farm. The most permanent and efficient kind of drainage within the farm is under drainage or tile drainage. For many years the Department of Agricultural Engineering at Macdonald College has been offering its services to farmers who wish to install this type of drainage on their farms. Pontiac County in the Ottawa Valley has made much use of these services. Under drainage was well known in this district when tile had to be installed entirely by hand. However, in 1913 the Provincial Department of Agriculture sent a traction ditching machine to this County to assist farmers in this work. The First Great War interfered with this policy of the Government, and it was not until 1929 that this work was again started on a large scale. At that time Mr. Earl Fulford of Shawville purchased a traction ditching machine by means of which nearly one hundred miles of tile drains have been installed, mostly in the townships of Clarendon and Bristol. Surveys of the land to be drained and drainage plans are made by the Department at the College, and since 1929 alone a total of seventy-five such surveys and plans have been made. While this is a good beginning in a very important work, there are hundreds of thousands of acres of land in this province in need of similar treatment.

Engineering service to farmers may be said to be the watchword of this department of Macdonald College. The Agricultural Engineer is interested, first and foremost, in how things are done on the farm, and in the use of those things which make up such a large portion of the cost of production, namely, man labor, power costs and cost of equipment. We therefore invite farmers to come to us with their problems.

RESEARCH . . .

(Continued from page 5)

tained when animal protein sources are interchanged, e.g., fish meal for dried milk products, if the precaution is taken to adequately balance the other nutritive requirements from natural or synthetic sources.

(b) Good pasture for growing birds will reduce the total consumption of animal protein carrying feed by varying amounts, dependent upon the age, density of stand and palatability of the forage.

(c) Simplified emergency feeding with mixed cereal containing ground wheat, oats and barley, supplemented with oyster shell and iodized salt and free access to sour skimmilk or buttermilk in place of water and good grass, will permit normal growth of young stock and adequately nourish layers on range during the summer. Details of an emergency feed plan for poultry which have been prepared in co-operation with the Poultry Department will be published in the July issue.

The Mother of Invention

The superior dehydrated vegetables now available are the product of intensive research by engineers, chemists and dietitians.

by W. D. McFarlane
Chairman, Department of Chemistry

The other day I received a letter from a Ste. Annes boy now with the Ferry Command at a Labrador Station. He wanted to know how to cook dehydrated vegetables so that they would look and taste like the "real stuff". I turned his inquiry over to our dietitians confident that they could tell him how to do it. In the last world war the same information was probably sought but the answer must have been "It can't be done — make the best of a bad job!"

Early in this war it was realized, for apparent reasons, that the removal of water from foods without destroying the palatability and nutritive value was a problem of immediate importance in shipping food overseas. The chemist worked with the engineer in improving the drying equipment and with the dietitian in studying the cooking quality and nutritive value of the products. The first problem was to improve the dehydration process so that the material would cook into a palatable product — the second problem was to prevent the loss of vitamins during dehydration and subsequent cooking. The problem of palatability has been solved and the loss of vitamins has been greatly reduced. The products are extremely good but not yet perfect and potatoes least so.

After the last war, when the necessity no longer existed, the dehydration industry went out of business — this time it may have come to stay especially if the products can be further improved. In the post-war era food dehydration may be a serious challenge to the canning industry especially if production costs can be reduced — it has an obvious advantage in transportation costs. Maybe the housewife will forget what a "spud" looks like or how to peel one, when she becomes accustomed to buying her weeks supply in a neat little package, and already precooked. She will only have to empty some into a pot, add the right amount of water, bring to the boil and call the family to dinner. However, more research has to be done before that's possible, but we are hopeful.

The drying of milk, eggs, and meat has raised special problems particularly in regard to the keeping quality of the products. The research chemist has had many headaches over off-flavor in egg powder and rancidity in milk powder. The shortage of tin hasn't helped him any either — storage tests have to be done for every substitute package that comes along if it looks at all promising. He must have done his job well because there's been no complaint from the other side. The more visionary among us see the development of food dehydration as a community rural industry after the war, and even look to the farmer drying his own crop. The perfection of a small scale drier for this purpose is one of the objectives of present research in this field.

You know that vegetable shortening before the war was made mainly from cocoanut, palm nut and cottonseed oil and we just can't get these any more. Sunflower-seed oil as a substitute is going to help us out but our best bet is linseed oil—that's what we have most of. Perhaps you don't like the idea of eating a paint oil — well, you probably will.

Here again research, born of necessity, has shown us how to convert this dark colored, evil smelling oil into a colorless and odorless semi-solid that you couldn't tell from vegetable shortening. But there's a snag here — you just have to let the stuff stand around for a while and the linseed odor and taste comes back; or if you use it in bread-making, the bread is O.K., but if you toast it you get the same off-flavour. The chemist calls this problem "flavor reversion" and I think he is going to lick it, so if you use vegetable shortening there will be linseed oil in it but you won't know it.

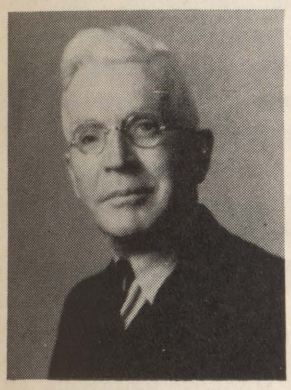
Compressing foods to conserve shipping space is another intriguing problem with many angles to it. Oleomargarine ain't what it used to be — now we can put the vitamins in it — maybe we will have to do something about this as a war necessity. Do you know how to make your own molasses from sugar beets? I hear there's a bulletin out on the subject from Ottawa. Somebody should be planning to make apple syrup from this year's crop — it's a fine sweetening agent and the process is all worked out. These problems haven't all been solved at Macdonald College but we have made and are continuing to make our own contribution.

Much use can be made of the findings of research to increase the quality, size, and vitamin content of vegetables and fruits. Premium prices would encourage the farmer to raise more food of high nutritive quality — the problem for the chemist would be to find a chemical basis for market values. However, a disturbing factor is the tremendous growth of the synthetic-vitamin industry. The interests of agriculture could best be protected by educating the public to the fact that there is no substitute for a well-balanced diet. The food industries, through research, can make a substantial contribution to increasing the consumption of farm products; already American enterprise has made available a long list of foods relatively new to our civilization.

The Farming Business

by J. E. Lattimer

Professor of Agricultural Economics



Investigation of the business problems of farming is a comparatively recent development. Formerly the questions most frequently asked concerned the methods of *doing* things. How to spray trees, treat soil and crops, feed animals and cure their ailments were subjects of inquiry. Lately, with increased specialization in farming, questions of another nature have also been included. Some of these are a trifle different.

To questions of method, which are always important, are now added the reasons why they should be done at all. This brings in the question of markets, prices and transportation. Indeed, during recent years of quotas and goals or objectives it is scarcely necessary to even name all new or recent developments. What is important to note here is that these developments have stressed the need for plans or programmes for each farm. It is hard to make a suitable plan without knowing what other farmers and other areas are going to do.

Adapting the home farm to that purpose for which nature prepared it best means greater dependence on other farms for those products not so well provided for at home. It also means that planning must be extended to a greater area than the individual farm. Increased business dealings now take place not only between farmers and others but between farmers producing some things and other farmers producing something else.

It all adds up to a simplification of production, and at the same time a heavier load on trade and distribution. Trade between country and country expands and also trade between farmers within the same country. The business side of farming becomes more important.

It is on this account that what is called agricultural economics has grown up. Such departments are on call for questions that become continually more numerous and complex.

They had grown suddenly wealthy and had bought a farm complete with hens, cows, and pigs. Said a visitor one day:

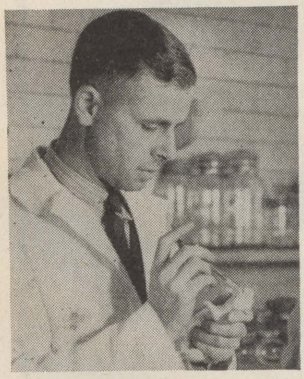
"Do your hens lay eggs?"

"Oh, they can," was the lofty reply, "but in our position they don't have to."

The absent-minded professor who sent his wife to the bank and kissed his money good-bye wasn't so far off at that.

The Animal Husbandman Asks Some Questions

by E. W. Crampton
Professor of Animal Nutrition



It was a homely philosopher who said that "the longer he lived the more he realized that most of what he knew was wrong". The humour of the statement is tempered for the college professor with the realization that perhaps he was in somewhat responsible for the "what he knew" part. At any rate it is a fact that as research methods are extended and perfected many surprising things come to light in the field of animal husbandry which are contrary to previously held views.

For example, not so long ago individual feeding of pigs on nutrition experiments at Macdonald College was started. The reasons were related to the need for individual food intake records. The idea that pigs might be fed individually could not be reconciled with practical pig management by many. All kinds of unfavourable results were predicted, and in one instance the fact that only half our pigs graded "select" when marketed was cited as proof of the folly of our feeding plan. The packers on the other hand were anxious to have our hogs,—why? Because the carcasses were better than average.

Accordingly we changed from selling "on the hoof" to selling on the rail grade. The results were a surprise to us. We unexpectedly began to find out that different feeds had different effects on the fat and lean distribution in the carcass. We also learned that some of the points of excellence on the live hog were not related to the excellence of the bacon carcass. Indeed we were soon forced to admit that much of what we "knew" about pig feeding was wrong.

These results also led us to search for the causes of such difference in rations, and eventually we found that the germ fraction was responsible for the specific feeding properties of the cereal grains. For example, wheat germ plus degermed corn is an excellent combination; but corn germ plus degermed wheat is a failure when fed to pigs in rations properly balanced with proteins and minerals. Barley again differs from either wheat or corn or oats. However when wheat germ is employed, extra fat deposits are found together with a smaller eye of lean in the pork chop. Since certain pure vitamins of the B complex will do the same thing we believe that these vitamins are at the bottom of the differences.

This finding raises other questions. Many cereal grains are degermed for human use. Has their food value been damaged? The germ from wheat has in the past gone into shorts used in pig feeding. But Canada Approved Flour is degermed wheat with most of the germ of the shorts returned to it. Thus the flour for our bread is enriched at the expense of the shorts of the pig ration. Shall we as a result have to feed vitamin B to the pigs? And so it goes. What is right today may still be wrong tomorrow, and the experimenters' work is never done.

Higher-Protein Hay

by J. N. Bird
Lecturer in Agronomy

Wartime restrictions on the levels of protein permitted in feed mixtures have emphasized the importance of higher-protein roughage in meeting the protein requirements of dairy cattle feeding. Our thoughts naturally turn to lush green meadows of clover or alfalfa from which we always hope to harvest the finest of legume hay, but do not always succeed. Since our meadows of this year have escaped the ruinous effects of winterkilling that come to us in about one year out of every three, we should have better-than-average chances of storing up some good legume hay, providing that we get the right kind of weather for curing it.

In any consideration of higher-protein hay our thoughts should also turn to the stage of growth at which the hay is cut, since this may greatly influence its protein content. With all kinds of hay, legume as well as grass hays, there is a rapid decline in percentage of protein as the hay becomes stemmy and mature. The stage or time of cutting has a pronounced effect both on the feeding value of the hay and the yield obtained, but its influence also extends to the aftermath or second cutting. This latter influence is of special importance in the legume hays, such as alfalfa and red clover, with their abundant aftermath which often furnishes us with much needed pasture in late summer when good pasture is usually difficult to find.

Carefully conducted experiments have shown that the aftermath following red clover cut in mid-June may provide one hundred pounds more hay per acre than when the first cutting is made at the end of June. Seed yields obtained from the aftermath are also larger when the first cutting is made earlier. Tests have shown that as much as one bushel more seed per acre may be obtained by making

the first cutting on June 15th, rather than two weeks later.

There is another advantage in favour of early cutting of the first crop of red clover if the aftermath is to be used for seed production, and that is, the earlier ripening of the seed crop. Such early ripening usually gives us a much better chance of getting the seed crop harvested and dried under favourable weather conditions.

Although timothy, and grass hays in general, are only about one-half as rich in protein as legume hays cut at the same stage of maturity, a considerably higher protein hay can be obtained from timothy cut in the latter part of June rather than in mid-July. Tests made at Macdonald College have shown that timothy hay cut in mid-June may have as high as 8 per cent of protein, but by the middle of July the protein content will have declined to about 4 per cent. The late-cut timothy hay is not only deficient in protein but is much less leafy and palatable and much less digestible than the early-cut hay. It makes a very low-grade hay for dairy cattle feeding, even though it may be satisfactory for horse feeding purposes.

Greater yields per acre and more rapid curing are sometimes raised as arguments in favour of late-cutting, but it must be admitted that these advantages are secured only at a considerable sacrifice in feeding value. The difference in feeding value of early and late-cut timothy hay for dairy cattle has been indicated in experiments at the New Hampshire Agricultural Experiment Station. In these experiments timothy hay cut on June 20th contained 45 pounds more digestible protein per acre than timothy cut on July 20th. These and other experiments suggest that we are most likely to get the maximum yield of digestible protein per acre from timothy cut just before it begins to bloom, that is, towards the end of June.

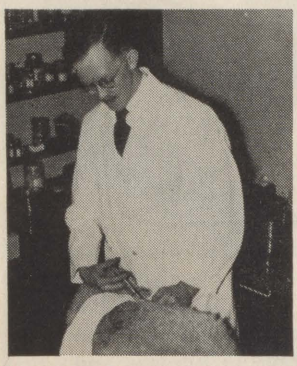
The protein content of hay and its relative feeding value can perhaps be judged best from its leafiness and green colour. These are factors taken into account in the grading of market hay. Leaves are twice as rich in protein as the stems and much more digestible. Early cut hay tends to retain green colour and leafiness much better than late-cut hay under similar conditions. From the time that the hay heads out until about the full-bloom stage, there may be no noticeable loss of green colour due to maturity, but beyond this stage the green colour fades away rapidly as the lower leaves wither and die. This withering and dying of the lower leaves is one of the reasons for the decline in protein content of late-cut hay. It is particularly marked in heavy crops of legume hays which lodge as they reach the full-bloom stage. The lodging greatly increases the dying of the lower leaves and may seriously affect the yield as well as the feeding value of the crop.

In a season like this when farm work has been so delayed because of weather conditions and the shortage of farm help, it may seem rather impractical to commence haying earlier than usual, but it seems that the need will be urgent just the same.

The Prevention of Worm Parasites of Sheep

by W. E. Swales

Division of Animal Pathology, Dominion Department of Agriculture and Institute of Parasitology, Macdonald College.



Eastern Canada, particularly Quebec and the Maritime Provinces, has largely adopted the Canadian system of preventing worm diseases of sheep by the administration of a single large dose of phenothiazine to adult stock during the winter or spring. The results have been very satisfactory, particularly in the many districts where nodular disease presented a serious handicap to profitable sheep production.

With the cooperation of the Division of Animal Husbandry, Experimental Farms Service, a large scale experiment on sheep kept under practical conditions was completed in 1942. The results showed that one treatment of the adult animals with four phenothiazine tablets each spring for two years reduced the number of nodules formed during the summer to less than one per lamb — a reduction of more than 99%. In addition to the effect of eliminating nodular disease the stomach worms and hookworms were reduced to negligible levels, *in spite of the fact that the lambs were not treated at all* before they were slaughtered in the summer and fall months. More than half of the lambs in 1941 were marketed before the end of September; this is a very different situation from the usual marketings of farm lambs and is further proof of the practical value of prevention of parasitic disease.

Having considered the results of the system of parasite control developed in Canada for Canadian conditions, there remain some questions that are commonly asked by flock owners. The most important of these is: "Why cannot we use much smaller doses of phenothiazine?"

The reason for using 30 grams of phenothiazine (three tablets) for sheep up to 100 lbs. in weight and 40 grams (or four tablets) for larger sheep is due to the fact that a high concentration of the drug in the lower bowel is necessary to remove all the nodular worms. Smaller doses, such as 20 grams, are highly effective for stomach worms but most of this amount is absorbed before it reaches the place where the nodular worms live. If many of the worms are allowed to remain in the bowel then they will continue to lay eggs which will contaminate the pastures in May, June and onward; if this happens then the destruction of the eggs and young stages of the worms, which is brought about by freezing period of the winter, will be of no value. If we are aiming at the prevention of stomach worms only, then a dose of 20 grams, or even less, is adequate. For the treatment of lambs infected with stomach worms during the summer even 10 grams of the drug may be sufficient. Nevertheless, it is far more efficient and economical to use the full protective dose once before the pasturing season.

Another common question is: "Why cannot I use a drench instead of tablets?" The answer is that the tablets have been found to be more efficient, more quickly administered and more convenient. However, the few who object to this method can make a drench by allowing the Canadian tablets to break down in milk or in linseed tea, one tablet per ounce of fluid, and then keeping the liquid shaken before drenching with three to four ounces.

No matter by what means the protective treatment of sheep flocks is administered it should be remembered that no drug must be used promiscuously or carelessly. Always proceed carefully and if there is any reason to suspect weaknesses in the flock, other than parasitic disease, treat only a few animals first and observe results. Obtain veterinary advice whenever possible. Do not let any treatment replace good husbandry.

Take Prompt Action Against Budworm

An outbreak of spruce budworm is reaching serious proportions in sections of eastern Canada, and is particularly serious in its attack of balsam fir, state officials of the Dominion Department of Agriculture, and the Dominion Forest Service.

Woodlot owners are urged to take steps to dispose of all their balsam fir which is large enough to make pulpwood at once.

The best method of controlling this pest is to cut the trees and peel the bark during the coming bark-peeling season, June to August. The slash should be piled and as soon as there is no danger of fire spreading, the slash should be burned.

If this is not done, the insect is very likely to spread to the more valuable species—spruce. If action is taken promptly, however, the spruce may be saved.

There is a good market, states the Department, for peeled pulpwood. If sold now the balsam fir will yield good returns. If it is left the spruce as well as the balsam will be killed and rendered worthless for pulpwood, and of little value even for fuelwood.

Mike: "'Tis a fine kid ye have there. A magnificent head and noble features. Say, could you lend me a couple of dollars?"

Pat: I could not. 'Tis my wife's child by her first husband."

Pastures 20 Cows on 7 Acres

A cow to an acre is regarded in many cases as good use of pastures. There is a wide variation, however, depending on many factors, as to how many acres of pasture are needed for any given number of cows. What is decidedly favourable pasturage, and would stand high anywhere, is reported from the farm of Murray Trefry, Yarmouth, and works out to nearly three cows per acre.

Two thousand pasture days from May 5 to August 2 last year on 7½ acres is the record of Mr. Trefry. This gives an average of 22 cows for each of 89 days.

The Trefry pasture is divided into four fields, two of 2½ acres each, one of 2¼ acres, and a small field of only ¼ acre. In 1934 this land cut five tons of hay. Fertilizer was first applied in 1936: 15 cwt. of 4-6-10 was sown on March 25 on pastures A and D, 15 cwt. of 5-10-5 on April 10 on pasture B, and 15 cwt. of 5-10-5 on April 15 on pasture C. During the seven years 1936-1942, inclusive, a total of 35,525 pounds of fertilizer was used, that is 676 pounds per year per acre. Heavy, one may say. Quite true! But look at the results, or, better still, go visit the pasture this spring and see what has happened. Here is production and production at a minimum cost.

The cows were turned into pasture "A" in 1936 on May 10, 1937 ond May 12, 1938 on May 10, 1939 on May 9, 1940 on May 11, 1941 on May 13, 1942 on May 5.

"Nova Scotia Farm News".

Before the war the long hair in the switch of the cow's tail was used as a filter for the air conditioning in Pullman cars and for civilian upholstery. Now this hair is being used for war purposes—in corvettes, destroyers, and battleships. For the artists who paint battle scenes, the camel hair brush has been replaced by the small tuft of fine silky hair in the cow's ear which is being used in the manufacture of high grade brushes for artists. This hair has a value of $15 a pound.

An egg is perishable and does not improve with age and the less eggs are handled, the longer the high quality will last.

Couch grass in Canada is a troublesome weed. The Russians crossed it with wheat and obtained a perennial wheat from one sowing of which seven crops can be taken.

Health of Seeds

by R. A. Ludwig

Demonstrator in Plant Pathology

The seeds of our cultivated plants can carry disease producing organisms. Diseased seed usually gives rise to diseased plants and thus frequently results in a reduction in the yield and quality of the crop. The use of disease free seed obviates this difficulty but unfortunately healthy seed is uncommon and in the main is not easily produced. Fortunately seed which has not been too severely damaged by disease producing organisms will often produce healthy plants if it has been subjected to the proper seed treatment. Methods of treating seed are simple and inexpensive. They warrant special consideration in our present effort to increase crop production.

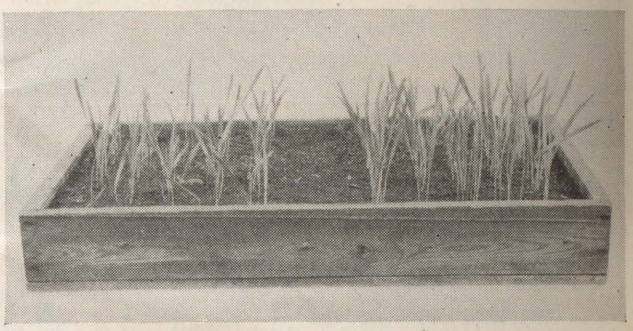
Laboratory examination of seeds reveals whether they are suitable for planting without treatment, whether they are suitable for planting after appropriate treatment or whether they should not be planted under any circumstances. An analysis of the health condition of a number of samples of oat seed grown in Quebec has been made at Macdonald College. Forty-two percent of these samples were heavily smutted, twenty-two percent were moderately smutted and only thirty-six percent were free from smut. Thus from the standpoint of smut control alone it would be advisable to treat sixty-four percent of the seed lots from which the samples were drawn. Of these same samples fifty-six percent were heavily infected with a fungus which causes seedling blight and leaf spotting, thirty-three percent were moderately infected, and eleven percent were not infected. Ceresan treated and untreated lots of all samples were tested for germination in soil in the greenhouse. The average germination and the health of the resulting seedlings is given in the following table. Results with one sample are illustrated in the accompanying photograph.

	Percent emergence	Percent diseased plants
Untreated seed	84.6	27.9
Ceresan treated sed	92.1	0.8

An examination of the data obtained from all tests showed that ninety percent of the samples would be definitely improved by seed treatment, five percent would be suitable for planting without any treatment and five percent would be unsuitable for planting even when treated.

It is apparent that a knowledge of the health condition of the seed that a grower wishes to use for planting purposes can be very useful for it indicates what disease control practice should be followed and makes it possible for him to eliminate one of the many hazards to crop production.

The Department of Plant Pathology at Macdonald College is prepared to conduct a health analysis on cereal seed samples submitted to them. These samples should consist of one pound of seed and be representative of the seed to be sown.



DO YOU KNOW ABOUT TRAVELLING LIBRARIES?

The demand for reading matter has grown enormously in England and America since the war. Now that so many other forms of diversion or relaxation are denied to us, books have again taken a prominent place in our lives. Whether we read for information or escape — still we want to read. On the other hand, books are now more expensive. How can *you* solve this problem if you have no library in your community? Here is one answer: Travelling Libraries.

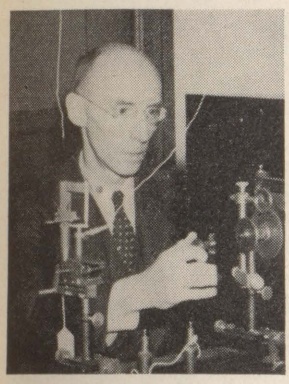
The McLennan Travelling Libraries at Macdonald College can supply you with books on any number of subjects, as well as modern and classical novels, at a nominal cost. Each Travelling Library box contains 40 books, 50% of which may be fiction, and the remainder general reading, at a fee of $4.00. These libraries are loaned for a period of four months. You may make your own choice of titles from our catalogue; or we will make up a box for you, if you prefer.

Many rural communities in Quebec have been availing themselves of this service and find it the answer to their need. Women's Institutes, Farm Forums, Young People's Societies, as well as groups of individual readers, are already being served by our department. Why not you?

WRITE FOR DETAILED INFORMATION TO TRAVELLING LIBRARY DEPARTMENT, MACDONALD COLLEGE, P.Q.

Atom-Smashing

by W. Rowles
Chairman, Department of Physics



The road of scientific progress is paved with innumerable stones which have been hewn in the field of Physics. Some are broad to carry the traffic; others are almost like jewels to give us pleasure as we travel along.

Atoms, the basic components of all substances, were formerly believed to be unbreakable and to retain their chemical nature under all conditions. Recent work in physics, popularly called atom-smashing, has shown that atoms can be in fact be broken into fragments, some of which are chemically and physically different from any previously known particles. Some of these behave like radium which, everyone knows, is used in the treatment of cancer. This is obviously important as radium costs about a million dollars an ounce and the supply is limited.

Radium, or a radium-like element, continually smashes *itself*. In fact, it may be said that individual atoms of radium suddenly explode giving off particles and rays which can kill cancerous tissue. The particles and rays can do other things too. They can, in turn, smash other atoms, they will darken a photographic film and they can be detected by electrical devices such as electroscopes or sensitive counting tubes.

To smash atoms one needs bullet-like particles. One way to obtain these is to put an electrified particle between metal discs one of which is charged electrically. This would attract the particle much as an ebonite comb, rubbed on the coat sleeve, will attract bits of paper. In this way the particle could be given sufficient speed.

But to obtain effects comparable to those obtained from radium a million or more volts is needed, and the experiment is not easy. In California, E. O. Lawrence first used the ingenious idea of sending the electrified particle round and round inside a divided metal box and giving it a jolt of about 50,000 volts each time it passed from one half of the box to the other. The particles were started at the middle and, aided by a powerful magnet, they whirled in ever-expanding circles gaining speed every trip. After about 200 trips the particles shot out through a suitable opening like stones from a sling and with unbelievable speed. This machine is called a cyclotron and when particles from a cyclotron strike obstacles, atoms are smashed with ease and the fragments and rays are now available for whatever use one can make of them.

For example, if particles from a cyclotron strike common salt the salt is changed and becomes like radium and its atoms explode one by one for hours after removal from the cyclotron. If a man drinks some of this special salt-water the movement of the salt can be traced to various parts of his body because the atom-explosions will affect an electrical counting-tube placed, for example, near his hand. It takes only a few minutes for the salt to enter his circulation and reach the hand. Hundreds of experiments are being performed with "smashed" atoms upon animals and with plants to see how all kinds of compounds move about in living bodies. Such experiments are particularly useful in studies of nutrition, where the smashed atoms are chemically combined with the food under study. Similar experiments show too that the manner in which green plants use sunlight for growth is quite different from what was formerly believed.

Atom-smashing also supplies a new weapon in the war on cancer. When cyclotron particles fall upon the metal beryllium, atoms are smashed and one new type of projectile is produced which is called a neutron because it is electrically neutral. Its lack of charge enables it to enter regions closed to other particles. In fact, under proper conditions, it can enter cancer cells and produce powerful explosions right, as it were, in the heart of the enemy. There is reason to hope that application of this technique may some day be of tremendous value to humanity. Atom-smashing is a stage on the road of progress.

The ancient road, fashioned by the Natural Philosophers of years gone by, winds backward into the mists of antiquity. We daily tread the stones marked Telephone, Radio, Aeronautics, and a thousand others, and the road winds onward, a broad highway, leading to a future beyond our power to foresee.

Mrs. Gotrich (to caller): "Yes, our little Henry is wonderfully smart in school."

Caller: "What is he studying?"

Mrs. Gotrich: "He's studying French and Spanish and Algebra. Henry, says "good morning" for the lady in algebra."

" 'Arry's in 'orspital."

"Go on!"

"Yus, a case of misunderstanding."

"What yer mean?"

" 'E frew 'is cigarette butt dahn a manhole and stamped on it."

THE WOMEN'S INSTITUTES SECTION

Devoted to the activities of the Quebec Institutes and to matters of interest to them

WHY WOMEN'S INSTITUTES?

by Anna F. Smallman

"Just what are Women's Institutes and what do they do"? The question met my eye. "Is there anyone who does not know all about the Women's Institute?" I asked myself. "After all these years of publicity"? And so I started to think it all over. Just what are Women's Institutes?

It is an organization for the rural woman—her opportunity—for it offers her a chance to improve herself along many lines. The organization was started in Ontario because one woman wished to learn more so as to be able to care for her baby properly. She grouped others around her and from this the idea spread until now every province in Canada has branches. It is the largest rural women's organization in the world and is in turn affiliated with the Associated Country Women of the World — the international organization. Before the war this association had representatives in many countries.

The system on which the Institutes functions is well-planned — carrying up from the branch, all branches following the same departments of work. Unlike the Home Bureau of the United States, which studies only problems relating to home life, the Women's Institutes have many phases of interest and study; the home — the farm — the school — the community — the nation and the world at large. What endless opportunities for study are being offered its members! New ideas are being presented to the public every day. The members endeavor to study not only those relating to themselves but those which affect others.

The interest that has first claim on many women is Home, and so the Department of Home Economics has a prominent place in the programme. Outlined plans urge the study of nutrition; home decoration; handicraft; ways of saving by canning and preserving, and using old materials to make new articles; family and social relationships — all this with the aim of furthering the war effort.

Women of the farm have always been personally interested in the gardens, both flower and vegetable, and the raising of poultry. The study of all this is urged as well as keeping themselves informed on all improvements in farm life and management. Thus they can be of help in making farm life more desirable. This convenership occupies the attention of a large percentage of its members.

Education is closely related to their lives and so this is another department that arouses an active interest in the Women's Institutes. Pre-school and school-age problems and adult education have all been and will continue to be a part of the study of its members.

Welfare and Health is an allied interest. This convenership also covers all war work, so has a full programme. The care of the family's health means the study of all developments in the world of medicine — the pasteurization of milk — the curbing of diseases and the helping of all causes which appeal to the charitable side of human nature. To improve and maintain the health of each community is surely a worthy reason for the existence of such an organization.

In National and International Relations the members aim to foster good citizenship and to study world affairs, so that when peace comes it may abide through the sympathy for and understanding of other countries so that we will no longer have a selfish outlook.

Publicity of all these activities is carried on in our local papers — in the Macdonald College Journal and in other organs of the public press so that our work may be known to the reading public.

This is a huge undertaking: are the members accomplishing it? This brings us to the second part of the query, "Just what do they do?" If you were to have here a detailed account of this past year's activities this article could not be contained in the one edition, so I will give only high lights with the assurance that each department of effort was studied and that a great amount of work was accomplished in each.

Through all the purposes of the past year has run the thread of our war effort, and for that reason the members have given money, time and energy to aid in our country's struggle. The requests of the Wartime Prices and Trade Board had the loyal support of the membership. They are endeavoring to learn the meaning of the phrase "total war" as it applies to the home front. Besides their study of home and farm life — touching many phases — the members have been busy sewing and knitting for the Red Cross, the Bundles for Britain and other charitable organizations, such as hospitals in their own province. Nor have they been forgetful of others — garden seeds have been sent to England and Scotland, especially to fellow Institutes members. Others have been making seamen's vests which, when completed, will be given to the Norwegian sailors as a gesture of friendship in appreciation

of all they have done on the seas. Boxes have been sent to the servicemen from every branch especially at the holiday season. Ditty bags were filled and sent to the Canadian sailors. Jam was made and shipped to Britain. A self-denial fund enabled the members to make a substantial donation to some war charity. This year the fund was divided among the Red Cross for war prisoners at Hong Kong, the Russian Relief Fund and the Queen's Canadian Fund.

In their own province the members have also been active. School fairs have been supported in many countries. The schools have received much aid in equipment and through hot lunches, first-aid kits and in supplying of Travelling Libraries. Adult Education has expressed itself by the members supporting the Farm Forums and by the showing of films sent out by the National Film Board and the Department of Public Information. The members have been active in gaining the Sanitary Health Units in the counties where there are branches; demonstrations and contests have awakened a keen interest in all new developments of home management. This is only a small part of what the Quebec Women's Institutes have accomplished during the past year.

But this has only told what the Women's Institutes have done for others. Just as important is what they have meant to the individual membership. The willingness to serve means that each one must put forth effort which is somewhat beyond what she has hitherto done. It has resulted in scarcely realized self-improvement. She has willingly undertaken greater things. This has made her akin to that ever-growing army of women who have donned their uniforms and gone forth to serve their King and Country. While they are on active service the members of the Quebec Women's Institutes will gladly keep the home front safe and ready until that time when the bells of peace ring out. For their motto is "For Home and Country".

Q. W. I. NOTES

Publicity outlines for County and Branch Conveners are printed in the last Annual Report. Conveners are asked to read and follow these outlines when sending in reports for the Women's Section of the Macdonald College Journal.

From Argenteuil County Brownsburg branch reports $25.00 voted for parcels for the men serving in the Forces. Frontier gave $5.00 for Russian Relief, and Lakefield $5.00 to the Red Cross. Jerusalem and Bethany gave $10.00 to Red Cross, and Morin Heights donated articles of wool and flannelette for Junior Red Cross work. Pioneer gave three quilts and $5.00 in cash to the Red Cross. Frontier gave $5.00 and 24 scrap books to the Children's Memorial Hospital.

Gatineau Country featured Home Economics in all its April meetings. Aylmer East had an instructive address on Feeding the Family by Mrs. A. C. Routcliffe, who also conducted an economy quiz. Wakefield had a paper on the Maple Sugar Industry, followed by a contest. Wright had a paper on Pigs for Britain, by Miss Pearl Connery and a contest on kitchen utensils which was won by Miss Mary McCredie. Leader of the Junior Red Cross, who read a letter of thanks from Mrs. Ruth Shaw, for the box recently sent. Three quilts, $50.00 in cash and other gifts were sent to Red Cross, from the County, and the Wakefield Branch has undertaken to fill 20 ditty bags.

In Huntingdon County, Huntingdon Branch undertook to make 6 more ditty bags, some of the articles to be made by the members. This Branch is planning to assist again with prizes for a children's Fair, War Savings Stamps to be used for this purpose. Papers on perennials and the Lenten season were given at the meeting. Dundee heard an article on the Dignity of Labour. Ormstown discussed means of doing more war work, and with the Branch at Aubrey-Riverfield is filling ditty bags for the sailors. A quilt made from tops of wool socks was sent to the Red Cross from this Branch, and two quilts went from Howick.

In Sherbrooke County 14 knitted articles were turned in to the Red Cross, a food sale was held during the month, and a donation of $2.00 sent to the County School Fair fund by Belvedere Branch. Brompton Branch made 4 large and 4 small quilts, one pair of seaman's socks, and sold 40 War Savings Stamps. The sum of $2.50 was voted towards the Montreal Auxiliary Bible Society for overseas use. Cherry River heard papers on National Events by Mrs. Whittier and Mrs. Baird.

County reports given at the annual convention in Lennoxville disclosed the amount spent on war work in the county during the year as being $664.25, in addition to knitting and sewing. A successful School Fair, seeds sent to Britain, sales of War Stamps and School prizes in this form were among the projects in this County. Mrs. A. E. Abercrombie, Provincial secretary, presented each Branch with a Registration Certificate under the War Charities Act, which, she stated, completed the registration of all Branches in the Province.

Q. W. I. Cancels Annual Convention

Owing to war conditions and possible restriction in travelling the Women's Institutes of Quebec Province will not hold their annual convention at Macdonald College this year. The Board of Directors has considered it wiser to cancel the Convention, and will meet of June 23 and 24 at Macdonald College to transact such business as may lie within its scope, and to plan for the activities and projects of the Institutes during the coming year.

When Home and School Come Together

From a radio talk by Mrs. Archibald Stalker, M.A.

According to the late Lord Stamp "Education has a three-fold purpose. It should fit us to get a living, to live a life, to mould a world. In other words, education is first for vocation, second for leisure and third for citizenship." These wise and simple words express the aims which gradually and consciously, if with many growing pains, our present-day schools are trying to achieve. This was far from true of the schools of earlier days. In them the child had his daily dose of 'education', prominently and exclusively so-labelled, compounded of the three R's, some training in deportment and not very much besides. Arrived home each afternoon from this world apart, he fell into his place in the family circle and his immediate community, where, through his necessary participation and co-operation in home tasks and pleasures, he got what was his 'real' education. The home and community were relatively self-suffiicient educational forces, though almost entirely unconscious of their role, for education was the business for which, exclusively, they had set up the school. I sometimes think what a startling heresy that man must have seemed to utter who first remarked that his education has been interrupted by his schooling.

However, a more mechanical age has brought with it a greatly-diminished necessity for the child's co-operation in home tasks, and in this present more mobile world homes are progressively ceasing to be self-centred and deep-rooted. There has grown up in the community, too, a multiplicity of agencies designed to care for the child's needs in education, recreation and character building. To these organized services parents have more and more entrusted the out-of-school lives of their children, and so delegated more and more of their own powers and control. In the schools, with the progressive, revolutionary transfer of emphasis from 'book-learning' to a child-centred scheme, a continuously-expanding programme presents to parents a bewildering array of activities both within and without the school curriculum. They have found their own field of influence constantly narrowed and they have not been altogether comfortable about it. Along with their natural impulse to help in whatever concerns the good of their child, they have an equally natural urge to learn whether the influences which play a part in his development, both in the school and in the community, are wholesome and desirable ones. Added to which is the understandable realization that, after all, they pay the piper, and though they may not feel quite up to calling the tune, they have at least the right to know what tune is a-playing. Take this feeling of a contribution to make and the right to make it, add to it a few parents in the neighbourhood with initiative and you are on the way to having an organized Home and School Association.

Parent organizations in the schools existed in Canada nearly half-a-century ago, but the first Home and School Association under that name was formed in Toronto in 1916. Figures to hand with respect to their present number are incomplete, but in 1940 they numbered around 1000 and had a membership of over 50,000,—truly a significant body of organized public opinion. Most of these are organized into the Provincial Federations of Home and School Associations which, in turn, are united within the Canadian National Federation of Home and School Associations, it again being affiliated with the international body.

Home and School Associations in Quebec presently number at least twenty-two. Others are known to be in process of formation and the Quebec Provincial Council of Home and School continues to receive inquiries regarding the procedure of organization.

Our Quebec associations have a creditable record of usefulness. Let me make mere passing reference to it with items largely culled from last year's reports.

St-Laurent Association provided a scholarship. King's Home and School Association sponsored a morning nursery school, Maisonneuve Home and School Association, a Boys' Club with full-time worker; Willingdon, an art school for the district and Iona, a supervised district playground. Dunrae Gardens (Town of Mount Royal) obtained a playground supervisor and supported the school library and Hampstead organized a school library. Beauharnois was instrumental in effecting local improvements. Roslyn School, which has done a number of notable things for local education, formed the Westmount Children's Art School. McVicar Home and School Association, now in its thirteenth year, is of a type to be found in districts having a large proportion of new Canadians. Among other things, it has sponsored community gardens and boys' and girls' clubs and is a flourishing community centre. The Greater Montreal Federation of Home and School Associations last year studied and reported on the proposed Montreal Island School Board scheme, and the Quebec Women's Institutes stressed the advantages of the larger school unit in rural areas to its members. The Rural Adult Education Association has been enthusiastically active in promoting Community Schools.

The guide and mentor for the individual associations in Quebec is the Provincial Council of Home and School, set up in June, 1940. Though it corresponds to the provincial federations in the other provinces, it has, by careful decision, thus far retained the name of council, chiefly because it has wished to avoid unnecessary duplication of organizations, particularly in the rural communities. The Women's Institutes, for example, have a well-established,

province-wide social and educational programme and perform through it the function of Home and School Associations. Any number of other efficient bodies, in town and country, are devoted in one respect or another to the welfare of the child and the family. All such kindred groups, and interested individuals also, are welcomed to membership in the Provincial Council.

The Council has been active in the promotion of the Home and School idea and is prepared to give experienced aid and advice. It has ready a list of speakers capable of interpreting the Home and School movement, objective, practical values and methods to groups contemplating organization. It has on this list speakers prepared to participate in the programmes of already organized Home and School associations. The number and competence of the speakers and the wide variety of pertinent topics makes the list quite an impressive one.

The Council Executive has prepared also an extended reading list of pamphlets and books on topics related to the home, school and community education of children and child welfare generally. It will undertake also to give aid to Home and School groups in the outlining of their yearly programmes.

Home Nursing

by Lucy Daly

Nursing in a country home is very different from that in a city home, or a hospital. The hospital is the scientific place where all examinations are made, treatment ordered and given. The city home has the advantage of getting nurses and supplies at a moment's notice, but the country home has very often to send several miles for a doctor and supplies, and farther for a nurse — if the patient requires one.

In a time of illness a good neighbour is a great asset, for she may be a little more experienced in nursing and may have the necessary supplies that are needed, as the ones the doctor usually has may be already out on loan.

When illness strikes a home the first thing to do is to choose a bright, sunny, airy room; one easily kept clean, as sick people do not like the fussing of getting a room turned out.

The next most important thing is the bed. If a hospital one can be procured so much the better; if not use a single bed with a firm mattress. People do like their own beds, but when a sick person has to be in bed constantly these beds are much the best both for the patient and the ones who are doing the nursing.

Making the bed is another important thing. A large enough sheet to completely cover and tuck in well, a rubber (oilcloth) sheet about a yard wide, and long enough to tuck in at each side, and a draw sheet to cover the rubber are needed. All must be very tight in order not to make wrinkles to hurt the back. Also necessary are a top sheet, light but warm blankets, hot water bottles if necessary; pillows are required. If head and chest have to be high a back rest is better than a lot of pillows, but that is only satisfactory if a single bed is in use, as a firm edge is needed to hold the rest.

To bathe the patient have plenty of hot water, two towels, soap, alcohol and powder. Roll patient to one side and slip a blanket under, also use a blanket on top. This is done to prevent chilling. Wash and dry bit by bit, rub with alcohol and powder.

Nightgowns should be opened the whole way down the back. Temperatures should be taken every four hours, not after cold or hot drinks, or after a bath, and at the same time every day. A record should be kept. Doctors' orders should be written out and carefully followed.

If liquids are ordered, about eight ounces every two hours should be given, as well as water between times. Suitable liquids are: milk, broth, egg-nogs, fruit juices, gruel and any of the cocoa and chocolate milk preparations that are on the market, such as malted milk, Vi-tone, etc.

Mouth and teeth must be kept clean and comfortable. Use a brush when you can and tooth picks with absorbent cotton, with a mouth wash to be used for the tongue.

Dishes must be kept separate, with pan, cloth and towels all to be boiled before being put back into use. All nursing utensils must be kept clean and disinfected.

Rest is the first thing to be ordered by the doctor in illness and the kind friends should have that in mind, or be told when calling. Any visit should be short and no upsetting news given.

Treatment ordered should be given at the regular hours. If pills are ordered, remember that several kinds look very much alike, and if by any chance you find certain pills disagree with the patient let the doctor know at once. The doctor may find it necessary to give medicine by injection.

All excreta is to be carefully taken care of. In chest conditions use gauze, kleenex or sputum cups, all to be burned and the frame of the cup washed with disinfectant. In typhoid, excreta should be covered with chloride of lime and burned, if in a house without a water toilet.

Convalescence needs care as well as the acute stage, for very often the person's health suffers for years. Provide plenty of rest, fresh air and good food, gradually increasing the daily exercise. Do not forget the great wastage that has gone on during a serious illness.

Q. W. I. Demonstrator Resigns

Miss Roberta Scott, who for some years has been Government Demonstrator for Quebec Women's Institutes, with an office at Macdonald College, has resigned her position. Miss Scott has rendered excellent service for the Institutes, and made many friends whose good wishes will follow her into the future.

Get Those Bacteria by the Tails if You're Canning

by F. S. Thatcher
Lecturer in Bacteriology

Bugs! There are always some darn bugs or germs or something waiting to spoil anything that's fit to eat! Last year I thought I'd beat the high prices and food shortages by preserving about three times as much vegetables and fruit as usual, but when we came to eat the stuff: phew — a lot of the preserving jars were frothing over or covered with green mold, and our cans had bulged out, enough sometimes to split the seams. I sent samples to the Bacteriology Lab. at Macdonald College. They took out a microscope and made a few tests and before long had all the details of our trouble worked out. They told me enough about the cause of canning failures and food spoilage to give me courage to try again this year.

They told me that when preserved food goes bad it is usually because bacteria (some people call 'em germs) are growing in the food. Many of these form acid and gas from sugary substances in the food. The acid sours the food and makes "off" flavours, while the gas, of course, swells up the cans or forces a leak at the rubber ring in sealer jars.

The blue-green or white fuzz often seen on jams — we had some that was black, too— was mold (the Doc. called it a fungus), but these molds can only grow when air gets into the food, and so are not usually so troublesome as bacteria.

The Doc said that all methods of food preserving whether it is canning, pickling, salting, dehydrating, freezing, or a lot of other methods he mentioned, are all aimed at killing the bacteria and molds present in the foods and containers, or else, the methods are intended to keep these germs from growing.

Some of these germs have pretty queer habits and some are as "choosy" as a spoilt child. Some can grow at refrigeration temperatures; some will grow extra rapidly at temperatures too hot for the hand to bear, for instance at pasteurizing temperature (143°F.); some require air, others grow only in absence of air; many won't touch acid foods, though there are usually plenty around that can thrive in them. Worst of all, perhaps, are the germs that can withstand a great deal of heat, "spore-formers" the Doc called them, because they form very tiny, tough, seed-like "spores" some of which can even stand being boiled for more than an hour.

I asked the Doc what would have happened if we had eaten any of the spoiled food. He replied that most of the bacteria and all of the molds which spoil food leave the food in quite harmless condition even though obnoxious, but there are three kinds of bacteria whose presence in foods has caused severe illness and even death.

The most dangerous, he said, from the point of view of home-canning is the botulism germ. This is one of the spore-formers, hard to kill, but fortunately cannot grow in acid foods, such as fruits, pickles, sauerkraut, jams and jellies. The temperatures and times used by commercial firms for the preserving treatment of non-acid foods such as most vegetables, meat products, soups, and meat-mixtures, are based on the treatment necessary to kill spores of the botulism germ. That's why it is so especially important to follow directions carefully when preserving non-acid foods! The Doc explained that, when growing in food, the botulism germ forms a deadly substance thousands of times more intensely poisonous than rattle-snake venom, so that mere tasting of the affected food has been known to cause death. Fortunately, botulism on this continent rarely occurs because the botulism poison is easily destroyed by heating even though the germ itself is very resistant. Any freshly cooked food that has been heated to boiling is safe from botulism worries. The germs can grow again, though, and left-overs containing botulism germs would be poisonous if not reheated before using next day.

The other germs that cause food-poisoning are certain kinds called Staphylococcus and Salmonella. "Salmonella", incidentally, has nothing to do with the fish but was derived from the name of Dr. Salmon, who discovered them. These, however, are easily killed by heating and would occur in heat-processed food only if imperfect sealing had allowed the germs to get into the food after treatment. More commonly, the poisoning caused by these bacteria results from contamination of foods after the container has been opened and the food allowed to remain above refrigeration temperatures. Keeping the food clean and in an ice-box is the best means of avoiding these other types of poisoning. To protect against Staphylococcus poisoning do not let anyone handle food in the kitchen who has any festering cuts or boils, for the pus from such injuries usually contains billions of these germs. Be careful, too, not to sneeze or cough in such a way as to allow moisture droplets to settle on the food. Anyone with a cold or sore-throat often has large numbers of Staphylococcus germs in nose or throat which may form their dangerous poisons if they get a chance to develop in the food. They require about 10 hours in the food in a warm room to form a dangerous amount of poison. Most poisoning from foods is of the Staphylococcus type.

The Salmonella poisoning is much less common, and usually develops only if food has been handled by someone who is a carrier of the disease called paratyphoid, or if rats or mice have polluted the foods. Doc said that contamination would only be important after opening the food container.

He made it clear to me that all these different habits and preferences of germs, both the poisonous varieties and ordinary spoilage types, have been considered in recommending food preserving methods. That is why there are several different methods of preserving, each combining different treatments in order to prevent the growth of all kinds of bacteria during storage of the food. For instance, fruits are usually acid to start with. They're then usually packed in syrup and given a heat treatment which varies according to the equipment available. So, you see, many bacteria will be unable to grow because of the acid nature of the fruit; many of those that can grow in such acid foods cannot grow in the high concentration of sugar that the syrup provides; and those that can thrive in both the acid and high sugar conditions are those which are fairly easily destroyed by heat. That shows how important it is to follow directions carefully, step by step, because every part of the process is designed for a special purpose. These methods are discussed in the bulletin "Canning fruits and vegetables", available free from the Dominion Department of Agriculture.

The particular spoilage troubles that the Doc solved for me, even though I thought I had followed directions carefully, were these:

First I had used water from a shallow well which was not too clean at the time. Water from a city supply or a deep well is usually O.K., but if water is taken from any other place it is better to keep it at the boil for an hour because water such as I had used often contains bacteria that not only survive ordinary cooking treatments but can multiply extra fast at the temperatures prevailing during a good part of the processing. I didn't cool my cans rapidly enough, either, so that the germs continued to grow.

Secondly, I hadn't realized the degree of thoroughness required in cleaning my glass containers before use. These same heat-resistant and heat-loving germs lurk in enormous numbers in the slightest trace of dirt or dried food which accumulate in the places hard to get at. If a few survive and the product is kept warm too long by slow cooling, or by storing near a steam or hot-water pipe, or where direct sun can get at it then these spoilage germs get to work.

Most of the other useful tips I heard can be read in the Ottawa bulletin I mentioned, but after hearing about that botulism bug here's a tip from myself — If you're not sure whether canned vegetable, soups or meats are "good" when opened, for Pete's sake don't taste them to find out. You might die if the botulism germ is present!

Training in Household Science

by Margaret McCready

Director, School of Household Science

It is a far cry now from the days when the original work in household science was done in Quebec province. In 1670 Louis XIV of France made grants for the purchase of wool and the teaching of knitting in the mission schools of New France. Life in the colony was hard and the climate rigorous in winter and warm clothing undoubtedly hard to come by. This teaching in connection with clothing needs was one of the early examples in Canada of formal education for living.

Not until 1904 was training in cookery and sewing introduced in a few elementary schools in Montreal serving the English-speaking citizens. With the establishment in 1906 of Macdonald College great impetus was given to the study and teaching of household science. In 1907 the College opened its doors and three courses in household science were offered.

Today at Macdonald College we have students only in the four year degree course of which the designation has become in the past year B.Sc. (H.Ec.), Bachelor of Science in Home Economics. When the war is over the one year course or shorter courses may be given again as the need dictates.

As the degree indicates our students receive a scientific training in all subjects related to the broad field of home economics. They study chemistry, physics, bacteriology, foods and nutrition, textiles and in addition, mathematics, art and interior decoration, English, economics, psychology and education, and a wide programme in practical food preparation, home and institutional food service, experimental cookery, clothing construction and design. Recently additional experience in handicrafts has been available and our students have seized the opportunity to learn more of home crafts.

With so much attention focussed throughout the world on the need for proper feeding and with the possibility of clothing rationing ever present, the specialists in these fields are sought after for posts in the government departments of health and welfare, wartime price control and public information, the armed services and in civilian institutions where food service and laboratory research are

(Continued on page 28)

CO-OPERATION AND MARKETING

A page of interest to members of farmers' co-operatives

Credit and Insurance Co-ops

(The second part of a broadcast by H. C. Bois of the Co-operative Fédérée)

"Caisses Populaires" are savings and credit cooperatives. They are grouped in six regional unions which in their turn form a federation. They receive the savings of workers and farmers and hold them for the benefit of their members.

The first one was founded at Levis by the late Commander Desjardins in 1900. Its progress was slow at first, but it has been more rapid for the last seven or eight years. From 1920 to 1930 the number of such banks has increased from 118 to 179. From 1930 to 1941 it soared to 555.

Banks are successful in towns as well as in the country. On June 30, 1941, they were distributed as follows: 98 banks and 38,573 members in urban districts; 435 banks and 83,965 members in rural districts. The farmers' contribution is striking. Country banks hold 50% of the assets, 54% of the savings and 69% of the funds. Agricultural members have borrowed 51% of the total loans; they own 36% of the registered capital; their investments amount to 41% of the grand total. The balance of the operations and of the funds belong to people living in towns, cities, or semi-urban districts. Savings and credit cooperatives had assets amounting to $22,420,000, liabilities, $20,502,000, and a credit balance of $1,759,000 on June 30, 1941. These figures are much higher now.

The credit banks often assist cooperative societies. In country districts a member of a cooperative society is very often a member of the bank. The agreement and the connections between the two organizations are becoming closer. Our people have thus succeeded in using the farmers' money to promote farming.

Credit banks lend only to their members. Each application is examined by a special committee, chosen from and elected by the members, which tries first and foremost to further the interests of the borrower. Many private individuals, corporations, cooperatives, and at times private concerns have obtained in this way the funds they needed. The loss sustained is practically non-existent.

The banks are one of the finest achievements of the cooperative movement in the Province of Quebec. They have served as a model for the organization of credit unions. The existence of 9000 banks in the States shows that Quebec can export its ideas and institutions. But rural cooperatives must expand further. They have also created cooperative societies and unions. It is the most fruitful attempt which they have ever made to improve their lot.

Co-operative Fire Insurance

The first fire insurance societies on the mutual plan came into being about the middle of the nineteenth century. Today there are 280 of them and the total property insured is valued at $157,680,000. Subject to the insurance law of Quebec, the provisions of which are not always in keeping with cooperative principles, mutual societies are essentially cooperative enterprises.

They fall into three groups: the parish, the municipal, and the county mutual. The first is designed mainly for members of the parish although it can operate within the county. The second is restricted to the town. It is set up by the town council. The third caters for the freeholders of the county and can extend to the province. Their business is conducted according to two plans: that of yearly distribution and that of fixed premiums. The first is the more common. Deposit certificates are required, and constitute preferential credit against the farm of the policyholder. The second, the fixed premium plan, is a little more complicated on account of legal requirements. Mutual societies do not insure houses and buildings in a built-up area. Apart from that, they can insure anyone. Risks are not classified, which is a serious disadvantage. Moreover, the directors limit the amounts granted to each policyholder to avoid too high a total. Mutual fire insurance reduces the insuring cost by 50%, which represents a saving of at least several hundred thousand dollars. The fire risk in rural districts has increased as a result of the growing use of motor vehicles and tractors. Reinsurance has become necessary. It will be possible however only when mutual societies have decided to federate themselves, which would enable them at the same time to reach uniform practice in business methods, accountancy, and risk assessment.

Looking Ahead

"Already the British and American co-operative movements have met representatives of the co-operatives in the countries under subjection, and plans are afoot in order that we may, without delay, on the first trumpet of peace, assist those of our members to rise and to move unitedly forward."

"The co-operative movement is destined to have one of its greatest opportunities to be of service to the world. Post war reconstruction will furnish this opportunity. A strong world-wide movement has a major contribution to make in the post-war period."

How W.P.B. Order Affects Co-ops.

How does the government order concerning opening of any new businesses or further expansion of existing business concerns affect farmer co-operatives?

The position of farmer co-operatives is no different from other concerns, according to government authorities. They must obtain the proper authority from the Wartime Prices and Trade Board. An exception is to be made, however, in the case of farmers grouping together for the selling of their livestock. There is a reason for this. The Board is anxious to remove all possible obstacles from the path of the free movement of livestock to market.

Other types of co-operatives must continue to apply for permits to open up business or to expand the business they now have in any new direction. W.P.T.B. says that it will give favorable consideration to certain types of "buying" co-operatives. Groups that buy feeds and fertilizers and similar farm supplies will receive due consideration when they apply for the authority to go into business.

In a statement the Board issued recently on the subject, it was pointed out in conclusion that "We do not wish to obstruct in any way the production of livestock and other agricultural products. The main deciding factors in granting permits of this type will be the supply situation in the required goods, and whether existing local business outlets can adequately handle the requirements of the community."

Notes on Meat Rationing

"Canadian farmers are largely on the 'honor-system' so far as meat rationing goes", said Mr. F. S. Grisdale, Deputy Foods Administrator, in a Farm Forum broadcast the other day. Mr. Grisdale, himself an Alberta farmer, continued: "We are asking farmers voluntarily to reduce their meat consumption by at least one-fifth. That is about the average reduction which will be imposed on those who have to buy all their meat by coupons at the store."

If a farm family buys all its meat at the store, ration coupons will have to be used in the ordinary way.

Farmers who kill livestock for their own use must register with their local ration board. They may do this by mail.

At the end of each month they must send in to the local ration board one coupon for each two pounds of meat killed and consumed at home. Two pounds of meat bought at the store would cost two coupons.

Their other coupons may be used to buy meat at the store, in order to provide variety.

If a farmer sells part of the meat he kills to another farmer he must collect coupons to cover half the amount of meat he sells; if, for example he sells 10 pounds of meat to another farmer he will collect five valid coupons which he will forward with his own coupons to the local ration board at the end of the month.

MARKET COMMENTS

May recorded a slight decline in prices of all grades of cattle. Veal showed some advance and hogs a further decline. Butter declined while cheese firmed. The relative position of cheese and butter is quite the reverse of the position of the previous year. At that time cheese was accorded a decided price advantage for the specific purpose of providing the required quota for overseas. The price brought forth more than the required supply and led to a scarcity of butter. Present prices, including the bonus on butter, favour the production of butter as compared with cheese with the result that butter production has expanded with a reduction in cheese output.

An important feature of the present market is the firm prices and comparative scarcity of fruits and vegetables. This is illustrated by the sharp advance in prices of both apples and potatoes. These are the only two representatives of this class of products here recorded.

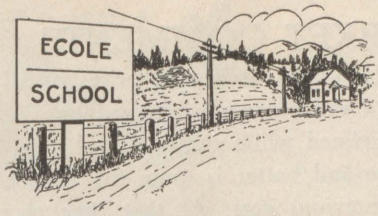
Price of eggs and poultry continue firm in comparison with last year. In the case of eggs this is a reflection of the increased quotas required overseas. In the case of poultry it is due to the general scarcity of meats and the fact that poultry is not included in the meat rationing now in effect.

The international conference on world food supplies now in session in Virginia has taken up the questions of the need for stabilizing prices of farm products in the post war years, and also the probability of the need for rationing to continue for some time after the war is over.

Trend of Prices

	May 1942 $	*April 1943* $	*May 1943* $
LIVE STOCK:			
Steers, good, per cwt.	11.35	12.30	11.08
Cows, good, per cwt.	9.00	10.15	9.90
Cows, common, per cwt.	6.75	8.05	7.88
Canners and Cutters, per cwt.	5.52	6.65	6.10
Veal, good and choice, per cwt.	12.66	14.50	14.70
Veal, common, per cwt.	9.87	13.10	13.25
Lambs, good, each	7.55	10.50	9.75
Bacon, hogs, dressed B.1, per cwt.	15.40	17.00	16.90
ANIMAL PRODUCTS:			
Butter, per lb.	0.35	0.35	0.33
Cheese, per lb.	0.22	0.22	0.23
Eggs, grade A large, per dozen.	0.30	0.35	0.35½
Chickens, live, 5 lb. plus, per lb.	0.23	0.29	0.33
Chickens, dressed, milk fed A, per lb.	0.29	0.35	0.35
FRUITS AND VEGETABLES:			
Apples, B.C. Winesaps, Fancy, per box	3.40	3.75–4.00	4.25–5.00
Potatoes, Quebec, No. 1, per 75 lb. bag	1.70	1.90	2.10
FEED:			
Bran, per ton	29.00	29.00	29.00

Co-operatives have always provided a price ceiling by returning surplus charges to consumers in proportion to their purchases.



LIVING AND LEARNING

WHY FARM FORUMS

Some time ago Quebec Farm Forum members were invited to enter a contest on "Why Farm Forums". Many letters were received, and the judges will announce the winner in next month's journal.

All of the letters gave excellent reasons why they thought Farm Forums were a good thing.

"The Farm Forum Meetings lead to better education. Education is becoming more and more a necessity in everyone's life whether we are old or young, and attending these meetings is one way in which the older folk may improve their education."

Mrs. Arthur Henderson, Ormstown.

"The Forum tends to increase the social assets of the community and helps us to know and appreciate each other better."

N. W. Lobb, Ayer's Cliff.

"I lived in the city until three years ago. Milk was left regularly at my door and I paid more for it in winter and less in summer, but did not reason why. For the last two years I have belonged to a Farm Forum. I have learned what that milk means to the farmer in sweat, anxieties, discouragements and obstacles to overcome. Also that conditions and prices have not always been fair.

The Farm Forum have made possible greater cooperation in many rural communities, especially among the smaller farmers: co-operation in buying seeds, fertilizers, and feed, and selling produce and eggs, and in community use of expensive machinery, which the small farmer cannot afford.

The Farm Forums have used their influence for the betterment of health in homes and schools."

Mrs. Louise E. Young, Foster, Que.

"There is the social side. These meetings promote friendliness and neighbourliness. That alone is worth a great deal. Many new acquaintances are made at Farm Forum meetings and sometimes it is surprising to find that Mr. So-and So- whom you had heard was an old grouch, is really a jolly fellow when you get to know him you find out that he has problems just like yours.

One concrete example of the "Good" of our Forum is our Cooperative Creamery in Cowansville. Our Forum had a great deal to do with organizing the farmers and getting the thing started."

Mrs. Stanley Hooner, Sec'y., East Farnham Forum.

"In the olden days, in the long winter evenings, a great many get-togethers among neighbours took place. These often took the form of a "bee" to do some kind of work.

With the advent of the telephone and radio, families visited less and less, and the farm became more and more a little separate kingdom, each family raising the same products and competing with each other in selling the same. As time went on one family knew little how their nearest neighbour fared.

The Forum is gradually being taken as an institution in the Community. The members are realizing that they as farmers alone are unorganized in a highly organized world.

Through reading the Farm Forum Facts, and listening to the broadcasts and discussion, they are realizing that they are a cog, an important one in keeping the world spinning. That their problems do not end at the line-fence and that only by working, planning, and thinking together, linked by the help of radio, can there be any chance of bettering their positions."

W. D. Frank, Kingsbury, Que.

"The most efficient method of organizing and uniting the farmers is through the Farm Radio Forum."

W. B. Holmes, Kingscroft Forum.

"Farm Forums are the best way to keep in touch with the government. While the Farm Forums are just getting well started we feel that they, through the answers to the discussions, have helped the government to a better understanding of the needs of the farmers."

James D. Harrison, Sec'y., Hardwood Flat Farm Forum.

"What are our boys fighting and dying for? Isn't it for a better world and so that everyone may have a decent living? Surely we here at home can do something towards helping to make that better world for our boys to come home to."

Mrs. Gladys Montgomery, Sec'y., Parker Hill Forum.

"Because we are engaged in a life and death struggle with a powerful enemy, and the world and our own country needs food. Because, to increase the production of food it is necessary that farmers get together, understand and help to solve the problems of increased production.

Because, in addition to needing food, our government needs advice and help in undertaking and solving the problems pertaining to the production of food.

Not only is this stupendous task of producing more food facing us. It must be done efficiently and well. And when by God's grace and our own efforts it is done, the need for Farm Forums will be greater than ever, because we must help to solve the immediate post-war problems.

Today transportation, labour and industry are in the hands of well organized groups. What chance has the lone independent farmer to compete with this?

What can Farm Forums accomplish? For the individual—understanding of existing problems—clarifying of thought—a chance to practise self expression. For the group, it will develop leaders; discussion leaders, recreation leaders, and may we not hope, leaders in thought and action."

Mrs. Everett S. Rudd, Canterbury Farm Forum,
Bury, Que.

LETTER FROM LABRADOR

REPORTING: another Community School in the Province of Quebec!

PLACE: Harrington Harbour, Saguenay County, Labrador.

We have 80 students registered, and an average attendance of around 60. People have taken to the idea of going to 'school' like ducks to water. The doctor has given some of the lectures on first aid, and we've had games and square dancing and movies for recreation and talks on cooperatives. I've heard people say 'I can hardly wait for next Saturday night to come.'

I enjoy reading the Green Leaf and Farm Forum Facts. I was amused by the Tall Tale of the farmer shingling the fog. What's a farmer know about fog? For real fog you ought to come to Labrador. It rained and fogged every day the first two weeks I was on the Coast. Thinks I; I'm going to like this country when I see the boats . . . there are so many of them. When the fog settles in they call it 'ticka fog'. It gets so thick that at times I hear they have to lash a knife to the bow of the boat to cut their way through.

I am just back from my first komatic trip: ninety miles by dog team. I went with the local mail man. The settlements are on an average 10 miles apart and consist of two houses, as a rule. I planned to be two days at Wolf Bay but the weather being what it was, I was there six. I called a meeting and we did some singing and I talked awhile about co-operatives and then we played games and had a 'skip' square dance. You should have seen me navigating my skin boots through that!

Skin boots are locally made by all the women for their families from seal skin, de-furred, but untanned. They are not laced. They come up to the knee and are tied on with a draw string, preferably of a vivid color.

On our way home from Wolf Bay a blizzard came up about 10 o'clock in the morning and we were lucky to reach Pointe au Maurier, a community of two houses, ten miles away from their nearest neighbours. And so there were six dog teams, 11 people and 41 dogs, there for the night.

The Doctor has a 300 mile district and was returning from his western trip. One night he was caught in the fog and had to stay out all night, although they were within two miles of the next village. Even at that the fog wasn't as thick as it might have been. One man tells the story of being caught in the fog and it was so thick he drove a peg in it and hung up his dog harness to dry!

Sincerely,
Muriel Lutes.

Muriel Lutes is a farmer's daughter from Lutes Mountain, near Moncton in New Brunswick. Miss Lutes has been interested in adult education for several years and has spoken in small centers in Quebec. She is well known for her writings, and for her tourist canteen on Magnetic Mountain—a phenomenal New Brunswick hill where the water is said to run uphill. Last year she was engaged by the Grenfell Mission to do adult education work with an emphasis on handicrafts and co-operatives on the Quebec Labrador.

"So you complain of finding sand in your soup?"

"Yes, sir."

Did you join the Army to serve your country, or complain about the soup?"

"To serve my country, sir — not to eat it."

The National Farm Radio Forum Conference

The annual conference of the Farm Radio Forum was held at London, Ont., on May 18, 1943 under the chairmanship of Dr. W. H. Brittain. It is regrettable that no delegates were present from the Maritime Provinces, but all the other provinces were represented. The conference took the form of a series of discussion group meetings with all the delegates taking part in an active and lively discussion of the Forum. It was apparent that the Forums had made a vital place for themselves in the farm life of Canada and there was no suggestion of any slackening of effort, but only an earnest desire to continue and extend the work of the Forums. It was the unanimous feeling of all present that the Forums had an essential part to play in the adjustment of agriculture to the needs of the war and the post-war world and as an instrument in effecting needed changes.

It was unanimously resolved that the Executive should take immediate steps to appoint a permanent Secretary, in order that the work of organization and preparation for next year's programme should suffer no delay.

RURAL FILM CIRCUITS

In the catalogues sent out by the National Film Board there is a special section listing "agricultural films." These are films particularly of interest to the rural film audiences. Macdonald College is responsible for three of these rural film circuits in English speaking sections of Quebec. Robert Taylor, who comes from a farm at Tomiphobia, is the projectionist, and every four weeks he visits 21 places, carrying with him films, projector and a screen. The first week he goes to the Chateauguay-Huntingdon district. Monday there is a show in Athelstan, Tuesday in Dundee, Wednesday at Ormstown, Thursday and Friday at Franklin Centre and Havelock. Afternoon showings are held in the schools and in the evenings the adult audiences gather.

The next week is spent in the Laurentians—Arundel, Morin Heights, Weir, Shawbridge, and New Glasgow all have film showings.

The third week the same film program goes to Bell's Falls, Grenville, Kazabazua, Wakefield, and Quyon. The last week of the four includes Fort Coulonge, Campbell's Bay, Bryson, Shawville, and Bristol. A special showing is given at the internment camp at Hull the end of the month.

On the second and third circuits the films are shipped around to places which have their own projectors, or where arrangements can be made to have one brought from a neighbouring community. On Circuit 2, the film program goes the first week to Waterloo, Foster, Knowlton and Sutton. The next week Stanbridge East, Bedford, Philipsburg and Dunham see the films. Afterwards they go to Coaticook, Dixville, Barnston and Brompton Road. Waterville, Lennoxville, Ayer's Cliff and North Hatley receive them the following week. Each community is responsible for shipping the films on to the next, in time for their showing, and generally this system works very well.

The third circuit starts with Valleyfield, Huntingdon and Howick. The second week the films go to Stanstead, Ascot and Magog. Scotstown, Bury, Cookshire and Sawyerville also see this program.

In addition, occasional showings are made in other places. Foster had a special showing at a Farm Forum Rally held recently. Over the Easter holidays there was one at Tomiphobia. Here's a report on that showing from Mrs. Ward Derick, Tomiphobia.

"The roads and weather were at their worst, but I am sure the ones that made the effort and got to the hall were amply repaid for getting out on such a night. The pictures were very interesting as well as being instructive. The only complaint was that we couldn't have them oftener."

A little about the program for these film showings. The pictures usually last for about two hours, and often are followed by recreation, or discussion of the films or problems suggested by the films. Here's a report on one of the recent month's programs.

Newsreel Review of 1942: a general review of the progress of the war in 1942, with glimpses of Churchill's visit to Russia and Africa. It was a very encouraging film and the audiences received it with enthusiasm.

What Makes Us Grow: is a practical agricultural film showing the right and wrong ways of transporting animals to market.

Great Guns: the story of gun production in Canada. This was received with mixed reactions.

Five Men of Australia: this film was the most popular of the program. The story of five men in the Australian army which tells much of the spirit of Australia.

Community Sing screens words and music of songs for the audience to join in. Some of the songs on this particular program were not familiar to many.

Ploughshares Into Swords explains to the farmer the problem of making armaments and stresses the importance of the food production of the farmer in relation to other aspects of the war effort. The film was well received by farmers.

QUEBEC COUNCIL OF COMMUNITY SCHOOLS

On May 7 and 8 the Eastern Townships Adult Education Council met for the last time at Sherbrooke. It was replaced by the new Council: the *Quebec Council of Community Schools,* with a new constitution. The officers elected were as follows:

President: Principal Errol C. Amaron, Stanstead College.

Vice-Presidents: David Munroe, Ormstown.
Mr. G. Halliday, Sawyerville.

Secretary-Treasurer: Mr. E. L. Gilbert, Asbestos.

The new Council met twice on May 8th, morning and afternoon, and many decisions were reached, both about business of the organization and about future plans. It was felt that listening group programs should be sponsored by the C.B.C., and specifically a program directed to Community Schools was recommended. The distribution of functional films, training of leaders and such program features were recommended for old and new community schools.

Summer Schools in 1943

The following are the dates of the various summer courses to be held at Macdonald College during the coming months:

Summer School for Teachers—July 5 to July 30.

Summer School for Clergymen—Aug. 2 to Aug. 13.

Camp Macdonald—a campus camp on community programmes and leadership—August 21 to September 16.

Summer School of Handicrafts — now in progress, continuing until August 31.

Making the School the Centre

Canadian Association for Adult Education Annual Meeting
Dr. W. H. Brittain Elected Vice-President

Taking a bold step forward, the Canadian Association for Adult Education at its Annual Meeting in London,, Ontario, May 20-22, issued a call to **"all interested individuals and groups to share with the Association the urgent educational task of creating and strengthening those attitudes and understandings upon which a new Canadian and world society can be founded".**

In doing this, the C.A.A.E. left behind its former purpose of being merely an "educational clearing house" and affirmed seven basic principles which its new programme would assume.

The plenary sessions of the meeting, which were attended by representatives from eight Canadian provinces, devoted most of the time to the recommendations of the Committee which met at Macdonald College in December, 1942. The reports of the President, Dr. Sidney Smith of the University of Manitoba, and of the Director, Dr. E. A. Corbett, emphasized also the urgent necessity for mobilizing the educational bodies of Canada in a definite task.

"Adult Education must be more than talk. It must lead to conviction and action," said President Smith. "It is more dangerous to believe in nothing than to accept dictatorship," he went on, warning at the same time that this new stand of the Association did not involve sponsoring any "ism" or party.

"We have demonstrated in more ways than one," said Dr. Corbett in summing up the year's work, "that we can play a very useful and effective part in helping to shape public opinion towards definite objectives. The present challenge is unmistakable. It is to do everything in our power to ensure a lasting peace based upon justice for all."

Dr. H. Y. McClusky of the University of Michigan, who spoke at the annual dinner, contended that "Never before has there been such a demand for training to do efficient jobs . . . People are looking to the school as a place to go for an answer to their problems and the meeting of their needs." He urged that the school should be made the centre of the community, where people would learn how to co-operate intelligently and creatively with government.

Dr. Jas. Mallon of Toynbee Hall, London, told the meeting of the promises made by the British government to extend education after the war by raising the school leaving age to 15, and perhaps to 16. "There is no more reason", he said, "why a child should cease to be educated at 14 than that it should cease to live at 14 . . . Compulsory education to 18 years of age would give England a real democracy." He suggested the wisdom of giving formal schooling to age 15, then giving young people a period at work, followed by a period of part-time education and part-time work. The brightest might then be selected for University training.

In a joint meeting with the Canadian Club of London, Professor A. B. Macdonald of St. Francis Xavier University, described the work done by the Antigonish college among the miners and fishermen of Nova Scotia.

Dr. J. S. Thomson of the Canadian Broadcasting Corporation pledged the resources of the broadcasting system in the development of a national programme of adult education, and added that "organizing the listening audience was not, however, the business of the C.B.C." He believed that adequate financial support for the C.A.A.E. in doing that job could be found within Canada.

Afternoon sessions dealt with reports and plans for Farm Radio Forum, film circuits, library extension, recreation in wartime, leadership training and publications.

The closing session of the meeting was marked by the election of council members and officers. Dr. Sidney Smith continues as president, with Dr. W. H. Brittain, Dr. R. O. Filteau and Dr. Gordon Shrum as vice-presidents. F. C. Auld of Toronto is treasurer and R. E. G. Davis is secretary. Dr. S. F. Maine of the University of Western Ontario was elected chairman of the executive.

A national conference on Adult Education will be called by the Association in September.

HOUSEHOLD SCIENCE . . . *(Continued from page 21)*

important, such as hospitals, the defence industries, etc. The teaching field in which the training of workers is done, is in need of personnel also.

If you have an interest in studying the home economics field scientifically you will enjoy the four year course in the School of Household Science. You will have an opportunity to test the efficiency of food in promoting health in the animal research laboratories. You will have training in research methods in the biochemistry and food chemistry as well as textile chemistry laboratories. Special training in education equips those who specialize in this branch to teach household science in the schools of the Province of Quebec. Such training fits one also for community work such as with the Women's Institute, the health and welfare services, the newspaper education sections, etc.

It would seem as though the war is rapidly expanding the usefulness of home economics specialists. The expectation is that this field will continue to expand in the reconstruction days and thereby aid greatly in building better homes in a healthier, happier Canada.

QUESTION BOX

Have you any problems that are bothering you? This column is at your disposal. Address your questions to the Editor, Macdonald College, Que.

Question: My hens have neck moult very badly. What is the cause and how can it be cured? B. G., Mansonville, Que.

Answer: Neck moult is usually the result of a sudden change in management, such as with early hatched pullets which have been laying heavily before being confined to the house. The change from range to confinement may cause certain birds to stop laying and they usually drop the neck feathers as a partial moult. If the birds are still laying, the loss of neck feathers may be due to feather picking in the flock. When feathers are plucked out it is quite common to see the birds remain featherless until the usual body moulting season. Neck feather loss through picking is quite common in many early hatched pullet flocks, but is seldom seen in yearling hens.

In any case, if actual moulting occurs it is advisable to give extra feed by use of a moist mash daily, or a tonic which would stimulate egg production.

Question: What can be done about blackberries that string along the ground? O. M.

Answer: Remove all the old canes immediately after they have fruited. Head back the new canes, which should be trained to a trellis when they reach a height of from 2 to 2½ feet. During the summer hoe out all new shoots which spring up. The following spring remove all weak and slender canes so that the canes are about 10 inches apart.

FIRE PREVENTION

Every year there are a number of "thresher" fires and in nearly every case the fires have caused heavy losses to farmers. On the 1st of September, 1942, at 9:30 a.m., a well-known farmer at Shubenacadie, N.S., lost his life in a fire that appears to have resulted from threshing operations. Investigation shows that most "thresher" fires have been caused by:—1. Failure to lubricate moving parts of the machinery, resulting in overheating, which in turn sets fire to the dust, etc., in the machine and to the machine itself. 2. Moving parts worn or out of alignment, setting up friction with same result. 3. Foreign matter entering the thresher — small stones, metal scraps, dirt and dust. This causes friction or sparks, which in turn sets fire to dust etc., and flame is blown out into the barn. It has been observed that in a large percentage of "thresher" fires the fires have come near or at the end of operations when "sweepings" are picked up and passed through the machine. It is recommended that machines be regularly checked and lubricated and that sweepings are not passed into the thresher.

Average Housewife Uses Kitchen Knife 130 Times Each Day

It is estimated by Consumer Information Service that the housewife uses knives on an average of 130 times a day.

The best knives taper evenly along the blade to the point and from the top of the blade to the cutting edge.

If the handles on paring knives are too small they may cramp the fingers.

An edge which turns up at the point is usually the best for paring, and the straight edge best for mincing.

The saw or serrated edge is more efficient than the scalloped edge and cuts fresh bread and cake without crumbling.

STRIPPINGS

by Gordon W. Geddes

Well, we nearly finished sugaring in a blaze of glory. The roof got pretty dry at the last and caught fire while my father was boiling. If my mother and my sister hadn't come up that way for a walk, it might have gotten out of control before he noticed it. As it was they had to help him put it out. He got on the roof and they carried water from the brook and my sister climbed up with it to where he could reach it. Usually the brook seems quite near the camp but it seemed to get farther away every trip they made. I never found the camp so far from the house, either, as it seemed when Dot saw the trouble and she and Eddie and I started over. The field is ploughed about half the way and we sure kicked up mud. Anyway it ended all right except that we need some new roof.

But I don't know when the planting will end, though, if it stays wet and cold. There were a few nice days early in May when the garden dried off enough to make a start. The field seemed nearly ready for the harrow and then it poured and turned it into a bog-hole. Everyone needed an early beginning this year because there is so much to do and so few to do it. Still, we needn't give up hope yet. I can remember one year when the first crop planted was the potatoes on June 10 and we finished on the eighteenth. We did the harrowing when there were so many mud-holes that the horses kept pulling off shoes yet we had fair crops just the same.

The weather was quite discouraging to Paul and Virginia who moved in next door while it was fine. That's what Dot named the bluebirds who occupied our bird house fifteen minutes after we put it up. It was supposed to be of proper dimensions for them and they seemed to find it suitable. It was lucky the entrance wasn't any larger for we saw a starling trying to get in while the bluebirds were away. We started to interfere but Paul beat us to it and drove the intruder off.

As is often the case in late springs, some cattle are out in pasture waiting for the first grass to come up. When the barn is empty of hay there may not be anything else to do but it is hard on the pasture. On the other hand we can keep them off too long, for grass that heads out not only is poor feed but it stops growing. If kept short it will make more growth. And good green grass is is what we need to fill those food quotas. Anyway we're pleased with the effect it had on the calves last summer. The vitamins they got from it and the sunshine seemed to get them through the winter better than usual. Perhaps the grass silage helped, too, but all or some of them did the trick.

Dot and I are as bad as the cattle for we're just waiting for the first asparagus to get up through the ground. At least it won't harm that to start right in on it. In fact that's what you must do in order to keep it coming. Wish the rhubarb would hurry up too. That pound of sugar won't do much to it but some maple syrup will make more of it edible. We did some grafting on the apples trying to get a variety that will keep later in the season. We had a couple of trees that didn't raise good apples and wanted to change them to Lawfam. We couldn't get enough scion wood of that type but we got some. Of course the grafting is only an operation so far, it won't be proven successful until we see whether they take.

The percentage of male births is supposed to increase during a war but why does that have to apply to the calves? Everyone is complaining of all bull calves. Ours weren't too bad but we wanted a couple more and haven't been able to find them. At least the bulls will help the meat supply if they're all vealed but it may be hard on the milk supply a few years hence.

Down at the organization meeting for Jersey breeders in Stanstead County there was quite a bit of talk about artificial breeding. Perhaps it may lead to the formation of a breeding club. Anyway it was encouraging to find out that something the farmer buys has dropped in price. We now get a membership in Dominion, Provincial and local Jersey clubs for the fee that used to admit us only to the Dominion club. Such a move might be expected from the officials of a breed noted for economical production of butterfat.

DEPARTMENT OF AGRICULTURE

Activities, Plans and Policies of the Quebec Department of Agriculture

Farm Labour Again

The vexed question of farm labour supply was thoroughly aired at a meeting in Montreal on May 27, which was attended by agronomes, officers of the National Selective Service and other key men in agriculture. Mr. J. A. Rioux, who is the director of the Quebec Farm Labour Board, stated that some requests for men have been received from farmers, but that many more farmers, who are complaining that they cannot find men, have not made definite requests for help from his office.

The local intensive production committees, of which there are now over 900 in the Province, can be of immense help in this task of re-distributing farm help, and plans will be worked out at subsequent meetings between the district agronomes and the local Selective Service officers working through the committees to see what can be done in each locality.

It was pointed out that there are three possible sources of farm labour. First, it may be possible to redistribute men now actually at work by transferring some from farms where they are not absolutely needed to other farms where help is scarce. Secondly, there is the possibility of cancelling the work permits of experienced farmers who are now in other work and sending them back to the farms, and also of having farmers released from the armed services. Thirdly, there is the possibility of using students, office workers on holiday, or even people living in towns who could give some time during the afternoons or evenings in rush periods and for special purposes. It was admitted that most of the last group would be quite inexperienced, but it was thought that they would be of great use for harvesting fruits and vegetables where previous farm experience is not absolutely essential.

Mr. Raymond Ranger, Division Registrar, was present and explained the procedure to be followed by a farm worker when called to military service. He explained that when the first notice, for medical examination, came its instructions should be followed. Any request for postponement should then be made within 14 days of the date of receipt of the notice. There is no difficulty in obtaining postponement if the farm worker was employed on a farm on or before March 23, 1942. Postponement will also be granted to anyone who shows that, since that date, he has become an essential farm worker, even though he was not farming on that date.

In the case of a man who is not farming when he receives his notice, but decides, on receipt of his notice, to go back to farming, he is given a certain length of time to find a job: if he can then show that he is now an essential farm worker, his postponement is assured.

All requests for postponement should state the size and kind of farm on which the applicant is working, the number of men employed, the number of livestock, etc. so that the proper decision can be made as to whether or not he is really necessary on that farm. If the Board decides that the farm could get along without him, he is given a chance either to increase the size of his farm, if he is farming his own land, or to find employment on a larger farm where his services are necessary, if he is an employee.

Experienced farmers who are in the army but wish to be released so that they can go back to farming, may apply to their commanding officer for leave, without pay. These applications are reviewed by the Registrar's office and, if the requests are legitimate, are usually approved. In the case of men who have been in the army more than three months, their requests are dealt with at Ottawa. These requests for leave must be supported by letters from three responsible residents of the applicant's home community. Leaves are granted for a definite length of time, but may be renewed if application is made at least a month before expiry.

While no definite solution was found during the meeting, it is hoped that the further meetings to be held will discover some means of dealing with a problem which, combined with a very backward spring, is seriously endangering our crop production programmes.

Branch Farm Labour Office Opens in Montreal

A branch office of the Quebec Farm Labour Office has been opened at 285 Notre Dame St. West, and any requests for men should be addressed to Mr. Bertrand Turcotte at that address. The new office will work in collaboration with the Provincial Employment Bureau and the National Selective Office.

Premier Godbout Honoured in United States

The Massachusetts State College at the annual Convocation last month accorded Premier Godbout the degree of Doctor of Laws for his outstanding achievements in the fields of agriculture and government. The Premier was presented for his degree by Governor Saltonstal and the degree was conferred by the President of the College, Hugh P. Baker, who said: "The greatest test of an educated man is his ability and his desire to serve his fellow men. You have met this test in full and constant measure in the democratic spirit. Your spirit of leadership, your understanding of the people and of their needs, your boldness of imagination and of achievement have earned for you a high place in the Government of our good neighbour, Canada, and particularly the Province of Quebec."

At the same ceremony Dr. L. S. McLaine, Dominion Entomologist and Assistant Director Science Service, received the degree of Doctor of Science. Both Premier Godbout and Dr. McLaine are alumni of Massachusetts State College.

Mr. Adrien Morin, Associate Deputy Minister of Agriculture accompanied Mr. Godbout to the United States.

Planning the 1943 Red Clover Seed Crop

The 1941 crop of red clover seed in Canada was one of the largest on record, estimated at over six million pounds or almost twice the average Canadian production for the last fifteen years. This large crop should have provided sufficient seed for the 1942 seeding as well as a substantial carryover for the 1943 seeding. However, reseeding of stands ruined by the drought of 1941 together with the normal seeding requirements in 1942 greatly reduced this carryover, and, coupled with the low seed production from the poor stands which remained, has been responsible for the current serious shortage of this seed.

In order that we shall not be faced with a similar shortage for seeding in 1944, it will be necessary to plan immediately for the 1943 seed crop. This year we are fortunate in having stands of red clover which have come through the winter in a very satisfactory condition. Winterkilling is by far the most important of the factors influencing our red clover seed supply. It necessitates reseeding of fields, and this draws heavily on our reserve supply. In addition, it creates a shortage of hay and pasture so that there is little, if any, surplus acreage available for seed production. Even those fields which are left for seed may often prove unsatisfactory for seed production due to thin stands, low yields and weed problems resulting from thin stands.

Although our present stands have escaped the ravages of winterkilling, there are other factors which will have an important influence on the size of the red clover seed crop harvested in 1943. Foremost among these is the protein situation. Most of the red clover seed growers are also dairy farmers who must look to high-protein roughage as a means of getting around the current wartime shortage in protein supplements. It will be questionable with these farmers whether the second cutting of red clover should be used for feed or left to mature a seed crop. There is also the matter of price. Is the present ceiling price of red clover seed sufficient to induce farmers to use their crop for seed, rather than for hay or pasture?

Of course the answer to these questions must come from the farmers who usually produce the seed, but, whatever the answer, it is important that a decision be made immediately if the second cutting is to be used for seed production. In order to obtain a satisfactory seed crop it is usually necessary to have the first (hay) cutting of red clover made not later than the middle of June. This permits the second cutting to bloom during the latter half of July and early August, when large numbers of bumblebees are present to pollinate the crop; it also ensures that the seed crop will ripen sufficiently early to allow the crop to be harvested in early September when weather conditions are usually more favourable for drying the crop than later in the month.

Losses involved in the drying of red clover seed crops during unfavourable weather are often quite excessive. Any precautions that may be taken to reduce such losses are worthy of careful consideration, especially in times like these. Early cutting of the hay crop to ensure early ripening of the second seed crop is of the greatest importance in this connection.

The by-products of swine are varied and important. The bristles on the back are used in the manufacture of brushes. The small intestines are valuable as containers for sausages but not so useful as lamb's casings, because the pig's intestines make a wider and larger sausage which is not so acceptable to the trade. The pyloric portion of the pig's stomach is stripped and used as a source of pepsin. As in the case of cattle, the glands are saved for medicinal purposes. The skin of the pig makes gelatin; the feet are cured and put up in casks with bay leaves, and pig tails find a a ready market as food in the British West Indies.

New Plant Protection Chief

Mr. George Gauthier, D.Sc., has been named Provincial Entomologist and Chief of the Plant Protection Division to replace Dr. Georges Maheux, now in charge of Information and Research.

Mr. Gauthier is a graduate of Ste. Anne de la Pocatiere, where he received his B.S.A. degree, and of Cornell University where he did post-graduate work and obtained his Master of Science degree. He also spent one year as a Research Fellow at the University of California doing special work on the role of insects in spreading plant diseases. He received the degree of Doctor of Natural Science from the University of Laval last month.

Organizing the orchard spraying service in the eastern part of the province and the establishment and operation of branch entomological laboratories throughout the province are two of his noteworthy accomplishments. His research work on white grubs has brought him recognition from both Canadian and American entomologists.

One phase of his work which has been of particular benefit to the farmers of Quebec is the campaign to control the corn borer which has been notably successful: a campaign which Mr. Gauthier will continue to direct with vigour.

Spraying for Apple Maggot Control is Compulsory

Regulation No. 3 of the Plant Protection Act states: "All wild or cultivated apple trees must be sprayed once between the 12th and the 15th of July and again between the 28th of July and the 1st of August each year, unless orders to the contrary are given by the Provincial Entomologist. For each spray a solution composed of 1½ pounds of lead arsenate or 1 pound of calcium arsenate in forty gallons of water must be used, or a dust containing at least 10% lead arsenate of 7½% calcium arsenate."

This provision does not apply to apple trees kept for ornamental purposes, and on which the apples have been removed or destroyed before the 10th of July of the current year. Fallen apples must be gathered and destroyed at least once a week after the 10th of August each year.

The regulation above applies to anyone who owns one or more apple trees, under any title and for any reason whatever.

Dodder

In about two weeks the Provincial inspectors will start on a job which will result in the inspection of almost 40,000 acres of flax — their annual search for dodder, the weed which must be destroyed if flax-growing is to be a success.

Their plan of campaign calls for them — there are 15 or 20 men on this job — to visit every field of flax in Quebec and examine the crop for any sign of dodder. Where a few patches are found in a field the flax which is infested must be cut and burned at once, or at any rate before the dodder begins to bloom.

In fields where the flax is badly infested with dodder, other means must be adopted to make sure that the dodder is not able to reproduce the following year. Infested flax cannot be processed with clean flax, and the seed can be disposed of only by being processed into oil which destroys the dodder seed which may be present.

Thanks to painstaking work by Provincial inspectors during the past years the amount of dodder is decreasing in Quebec. With the co-operation of the growers in seeing that all infested flax is handled according to the instructions of the inspectors, this weed is being held in check.

The law provides a fine of from fifty to five hundred dollars for anyone who refuses to co-operate, but resort to these extreme measures is not often necessary. Quebec farmers realize that in this as in most other things, prevention pays profits.

Quebec Plant Protection Board Elects Officers

Potato situation to be discussed at special meeting.

At the conclusion of its spring meeting, held May 20th at the Department of Agriculture, the following officers were chosen for the coming year: Honorary President, Dr. G. Maheux, Director of Information and Research, Que., President, Prof. J.-G. Coulson, Macdonald College, Secretary, Fernand Godbout, Plant Pathologist, Montreal; Directors: Dr. E. Campagna, Faculty of Agriculture, Ste-Anne-de-la-Pocatiere; C. E. Petch, Entomologist, Hemmingford; R. Father Leopold, Institut Agricole d'Oka; G. Gauthier, Provincial Entomologist, Quebec; C. Perrault, Plant Pathologist, St. Anne.

Mr. Adrien Morin, Associate Deputy Minister of Agriculture attended the afternoon session and stressed the importance of maintaining the health of plants as the first step towards increased production. It has been decided to hold a special meeting early in November to discuss a program of protection for potatoes.

Farm Income Taxes Due June 30th

Due to increased farm incomes and lowered tax exemptions it is expected that more Canadian farmers will be required to pay Income Tax for 1942 than for any previous year. This means that many Canadian farmers will be completing and filing Income Tax forms for the first time.

To make the task as easy as possible, simplified forms have been prepared. The calculation of Income Tax can never be really simple, particularly where an accounting is necessary to determine the income. To help the farmer, the Department of National Revenue has prepared a booklet to aid the farmer in figuring his income and to give him a clearer understanding of how his tax is made up and of the requirements of the Income Tax law. A copy of this booklet may be obtained from the office of the District Inspector of Income Tax, at Quebec and at Montreal.

Until 1942, taxpayers, including farmers, were not required to pay tax on the income earned in a taxation year until the following year. For 1942, one-half of this tax liability is forgiven. The balance, to the extent that it has not been paid by instalments prior to January 15, 1943, is payable one-third by June 30th, 1943, and the other two-thirds on or before December 31st, 1943.

Farmers who made the required instalment payments have, therefore, in 1943 only a small balance to pay on their 1942 tax. Farmers who did not make the instalment payments have only one-half of the 1942 tax liability to pay.

In respect of their 1943 incomes, farmers are required to pay two-thirds of the tax thereon on or before December 31st, 1943. The remaining one-third is payable four months later, namely April 30th, 1944.

Shawville Calf Club Annual Report

Prepared by Douglas MacKechnie

The Shawville Calf Club reported a very successful year at the annual meeting.

A field day of the Pontiac and Renfrew Calf, Sheep, Swine and Grain Clubs was held in Renfrew County at a couple of outstanding farms in that district.

The Club showing took place on September 18th at Shawville with fourteen members taking part. The standing was as follows: Douglas MacKechnie, Ronald MacKechnie, Iverson Harris, Irvine Brownlee, Vernon Gallagher, Gordon Meldrum, Billy Horner, Clarence Kilgour, Laurie MacKechnie, Donald Meldrum, Ivan Dagg, Everett McDowell, Billy Pirie and Eleanor Pirie.

The four highest Ayrshire calves were sent to Kemptville where the Junior Department of the Central Canada Exhibition took place on October 3rd. Ronald MacKechnie was first, Laurie MacKechnie second, Billy Horner third and Douglas MacKechnie seventh out of a group of forty calves. Ronald and Laurie MacKechnie and Billy Horner formed a group representing this club and were awarded first place. They also won the Kiwanis trophy.

The following present and former members of the club are in the armed services: Irvine Brownlee, Iverson Harris, Gilbert Kilgour, Bob Walsh and Lionel Hanna.

RESTRICTION LIFTED ON BEE-KEEPERS' EQUIPMENT

There is some encouragement for the expansion of the business of honey production in the announcement from the Wartime Prices and Trade Board that quota restrictions on the manufacture of bee-keepers' equipment have now been entirely lifted. Production of such equipment will be limited now only by the amount of material manufacturers are able to obtain. Last year a very low quota existed for the manufacture of this equipment, but this was considerably expanded early this year, and now has been removed entirely. There is no official prediction at this early stage in the season as to the honey crop, but there has been an increase generally in the registration of bee-keepers and with a satisfactory production season, a very substantial crop of honey should be forth-coming.

MORE FARM EQUIPMENT IS EXEMPTED

Twelve items have been added to the group of five already exempt from the Wartime Prices and Trade Board order which rations new farm machinery and equipment. Rationing went into effect last October and except for hand tools, milk cooler refrigeration units, irrigation or drainage equipment, tracklaying type tractors and attachments, repair and spare parts, permits issued by Farm Machinery Rationing Officer were required before sales could be made.

Other articles now exempt are sickle knife grinders, incubators (150 egg or under) brooders, pump jacks, wood well pumps, barrel and cistern pumps, churns, sprayers (six gallon and under) wheelbarrows, electric fence controllers, hand operated seeders, cultivators and weeders and hay forks and their slings and attachments.

Butter and Cheese Production

In May 1943 (corresponding figures for 1942 given within brackets) the butter production amounted to 9,429,880 (7,912,868) pounds, showing an increase of 19.2 per cent.

The cheese production amounted to 2,736,996 (6,679,-027) pounds, showing a decrease of 59.0 per cent as compared with the same month last year.

During the first five months of 1943, the total production of butter reached 19,469,918 (13,453,070) pounds and is 44.7 per cent ahead that of the corresponding period 1942.

The cumulative cheese production has reached 3,786,-924 (12,998,489) pounds, showing a decrease of 70.9 per cent.

The figures quoted above indicate a large falling off in butter and cheese production. Local needs for cheese amount to about 40 or 50 million pounds yarly, and our contract with Britain calls for 150 million pounds in addition. This contract will be filled first and it seems likely that there will be necessary some restriction of local cheese consumption or in the amount of processed cheese manufactured.

Cheese making means at present a premium of from 3 to 4 cents per pound butter fat over butter making, and it might be a good idea to concentrate on cheese from now on.

Mustard Control in Fibre Flax

Fibre flax is one crop that will not successfully tolerate or compete with weeds. Not only is the yield per acre of straw greatly reduced by the crowding effect but the quality of the fibre is seriously reduced when weeds are present.

The type of soil that is most favourable to the production of flax is also admirably suited to the growth of common wild mustard. Mustard is a heavy seed producer and the seeds will remain in the soil for many years without losing their ability to grow. For this reason it is almost impossible to completely eradicate mustard by cultural and rotational practices, but it is easily controlled by chemical sprays and although this method is rather expensive, it appears to be the only means of salvaging a crop of fibre flax, once it has been thoroughly infested.

The most commonly used chemical for the control of mustard in flax is copper sulphate or bluestone. A 4 per cent solution in water when sprayed on the young mustard plants, gives almost 100 per cent kill. The spray should be applied when the mustard leaves are about the size of a fifty cent piece and before the plants are in flower.

A convenient method of preparing the spraying solution is to weigh 16 pounds of copper sulphate into a jute or cotton bag and hang the bag in a 40 gallon barrel of clear water overnight. The use of hot water speeds up the dissolving rate of the bluestone. The solution is poured into the spraying machine through a copper mesh sieve to ensure that no lump or lint is present to block the spray nozzles. Copper sulphate has a corrosive action on iron and so all metal parts which come in contact with the solution should be made of copper or brass.

The spraying solution is applied at the rate of one hundred gallons to the acre and care should be taken that the entire area is well covered, and should be applied on a warm, dry day after the plants are thoroughly dry and the mustard leaves are calling for moisture.

With bluestone costing $11.00 for a 100 lb. bag, the cost of the solution to spray one acre would be $4.40.

It should be noted that the above mentioned procedures control mustard in flax without any injury to the flax crop.

Freight Charges Will be Paid on Drainage Tiles

To encourage under-drainage of Quebec farms, the Department of Agriculture has undertaken to pay freight charges on tiles, under the following conditions:

1. Tiles must be made in Quebec. 2. Orders should be for at least 50,000 pounds (one carload). 3. Tile may be bought by an organization or by an individual farmer, but they must be used for no other purpose than for draining cultivated fields. 4. 75,000 pounds of tile per farm is the maximum on which freight charges will be paid. Claims for freight rebate should be sent to the Field Husbandry Service, Department of Agriculture, Quebec.

Trucking charges will be paid, but any difference in cost when the tiles are delivered by truck, if higher than if they had been delivered by freight, must be paid by the purchaser.

Rules to Control Cattle Diseases

Here are ten rules endorsed by the Health of Animals Division, Dominion Department of Agriculture, for controlling cattle diseases:—

1. Clean and disinfect water tanks and feed bunks regularly.
2. Drain, clean and rotate feed yards and lots and fill mud holes.
3. Raise young animals on clean ground.
4. Feed rations fortified with proteins, minerals and vitamins.
5. Yard and feed different classes of animals separately.
6. Secure a health certificate with new animals.
7. Separate new animals from the farm herd until it is known they are in a good state of health.
8. Segregate sick and unthrifty animals from the herd.
9. Have diagnosis of sick animals by a trained veterinarian.
10. Consult with experienced veterinarians about vaccinations and treatments.

THE COLLEGE PAGE

Dean's Letter to Alumni

Dear Graduate:

For considerations of space, this year's letter must be short, though the academic session that has just passed was one of the most active in our history.

Changes

In spite of additional space requisitioned by the army, our student body was suitably housed by using three former residences. One good thing that came out of the move was the setting up of a real Practice House for Household Science, through the complete refitting of the residence formerly occupied by Mr. Ward, a development which has met with general satisfaction. Incidentally, this year brought Senate approval of a change in the Household Science degree from Bachelor of Household Science to Bachelor of Science in Home Economics, abbreviated to B.Sc.(H.Ec).

Enrolment

For the first time in our history, applications exceeded our capacity to take care of the students. Nevertheless, it was decided to continue the Diploma Course in spite of the low registration of last year, and there was actually an increase in enrolment in this course. A gradual loss through enlistment occurred throughout the year in all classes. The new regulations respecting enlistment of science students, which include students in Agriculture, prevented a much larger loss from this source. It is expected that next year the registration of young men below military age will continue to be maintained.

Research Projects

All our research projects are being continued, with a number of others added at the request of the Research Council and other bodies. Some of the latter deal with problems concerned with feeding the troops and others are for the purpose of promoting farm production.

Extension Activities

Thousands of people now partake in the work of our Community Schools, Farm Forums, etc. It is gratifying to record that the people themselves have taken an active and increasingly effective part in operating these projects. More recently a Handicrafts Project, started on the proverbial "shoe string", has shown unexpected vitality and is growing far beyond our expectations. Already we have one full-time and five part-time instructors. Co-operation in this work with various branches of the armed forces has already been worked out. The rapid growth of rural discussion clubs has stimulated the preparation of a simple guide to group discussion, which shows promise of meeting a very wide demand. The revision of our study outlines on Co-operation is underway, and there has been a good circulation of other study outlines, Travelling Libraries, etc. The preparation of a number of practical bulletins is either started or in prospect.

Student Activities

In spite of war services, activities for both men and women students were not permitted to decline. True, the athletic programme was curtailed by abolishing inter-university sports, but supplementary activity to ensure healthful recreation for students was provided, including inter-faculty and local efforts. A high light of student activities was the successful promotion of a campaign to raise funds for the I.S.S., resulting in the raising of the sum of $600.00. A Music Appreciation Club was well patronized and interest in other student organizations, including the Rural Problems Club, was well maintained.

Students in the War

A very incomplete list of former students shows a total of 312 in the armed forces, a large proportion in commissioned ranks. Even those whose names have been given us bear very incomplete data. We appeal to all our graduates to notify us when they hear of the enlistment of former students, giving, if possible, addresses, including regimental number, rank, unit, etc. This will enable us to co-operate in the work of forwarding parcels to graduates and former students and in keeping in touch with them in other ways. We would ask you particularly to check the list that we are sending separately, and add to or correct where required.

This letter would not be complete without an appeal to the graduates. The appeal is only this — please send us news of yourself, especially if there is any change in your status or activities, and send us news of other graduates, or any item of interest that you would care to share with our readers. In particular, we desire complete data regarding students who have enlisted, in order to maintain touch with them.

Macdonald has not escaped and does not desire to escape from the effects of the war. Students and staff have accepted the situation as a contribution to the war effort and are doing their part, each in his own way, to promote that effort. We hope and believe that the steps being taken will improve our ability to play a significant part in the era of reconstruction.

Yours faithfully,

W. H. Brittain

Vice-Principal and Dean

Mac Students Are Not Idle

by H. R. C. Avison

Lecturer in English

There might sometimes be disagreement about how wisely students at Macdonald spend their time; there could be none this year —at least, about how full their hours were. From the moment in the fall when the first shy freshie sets foot inside the front door and is welcomed by an upper class reception committee, to the late evening in the spring when the tired senior returns from celebrating the writing of the last exam in the village, they are busy people. For, in addition to the thirty odd hours spent in lecture and lab weekly and the undetermined number in private study, a great variety of interests claim them. A review of these interests shows a healthy balance on the side of serious pursuits.

For six hours a week students of all courses are required to do some form of war training — lectures and drill in Officers' Training Corps for the men, first aid, home nursing and occupational handicrafts in the Red Cross Corps for the girls.

The fall term of 1942 was disrupted by the absence of most of the men on the "harvesters' excursion", where they got the exercise that would normally have been provided by competitive sports. They returned to hard study with no time for the games or societies, and only a little for social life, until after the mid-term.

The second part of the year saw the revival of all the voluntary activities. The Literary and Debating Society ran a full and successful programme of plays and debates. The Failt-Ye Times, in regular issues throughout the year, gave publication to news and ideas of the undergraduates. A renewed interest in student affairs, amendments to the constitution and the election of student officers expressed itself in many heated discussions. One group spent an evening a week practising public speaking, another in the study of rural problems. The Music Appreciation Club had a large following for its Sunday evening concerts of recorded music. The three week campaign to help the International Student Service provide aid to refugee and prisoner-of-war students was marked by enthusiasm and organizing skill. Behind the scenes the students' administrative council and the house committees carried the load of student self-government and the general direction of student affairs. The staff of the College Annual recorded in pictures the events of the session. Two hundred members — students, staff and C.W.A.C. — spent profitable spare hours and evenings in the Handicrafts Shop.

They worked and they played intensely. During the closing weeks of term the lights burned far into the night. Now examinations are over. The halls are quiet. This summer Mac students can be found from one end of Canada to the other on farms, in institutional kitchens and in other war jobs, putting their knowledge to work.

C. B. Taylor, who completed the Diploma Course in 1929 and graduated with a B.S.A. in 1933 has just received the degree of Doctor of Science from London University. He is at present with the National Water Pollution Research Board as a bacteriologist, somewhere in England.

THESE ARE THE GRADUATES OF 1943

B.Sc.(H.Ec.)

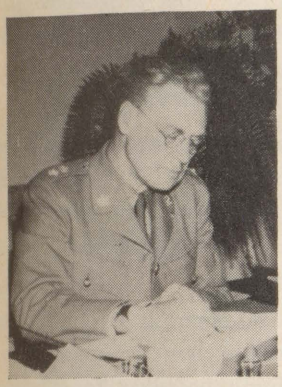
Front row: E. A. Chalmers, M. A. MacEwen, C. E. Pirie, K. M. Yates, J. Planche, M. J. McCaffrey, M. M. Eason. *Back row:* K. D. Grimes, E. G. Stewart, K. B. Beckett, E. M. Paumann, E. E. Gilchrist, M. R. Petrie, B. E. Newell, I. M. Scott.

B.Sc.(Agr.)

Front row: J. B. Moster, N. Deitcher, F. Shearman, B. I. Cliffe, P. Rudolph. *Back row:* R. R. Orr, C. L. Brogden, A. J. Steen, W. S. Fraser, R. E. Melanson. Not shown are E. A. Grant and F. G. Proudfoot, who were on active service when the picture was taken.

THE AGRICULTURAL GRADUATE

by W. H. Brittain Dean, Faculty of Agriculture



It is only within recent years that agriculture as a field of higher study has gained wide recognition. Macdonald College, which opened its doors in 1907, was only the second institution of its kind in Canada. Today our graduates will be found in almost every part of the world — on their own farms, occupying key positions in Departments of Agriculture, in experimental stations and research institutions, as scientific officers, Directors and Deputy Ministers, not only in Canada but also in the Colonial Service, in other Dominions, in the United States or in foreign countries. Many serve as teachers or professors in agricultural schools, colleges and faculties, or as university presidents, deans or administrators. Still others man the research departments of industrial corporations, particularly those connected with the food industry, fertilizer companies, etc., or in the management of co-operative companies. Many of them are doing useful service as officers of agricultural organizations of different kinds, or have found a place in public life as members of legislatures and even as Ministers of the Crown.

While the record does not perhaps justify any undue complacency, it does entitle us to a certain modest pride in the achievement of our graduates. Certainly, they appear to be holding their own, not only in their own special field, but in bearing the responsibilities that our democratic institutions require of our citizens. Not long ago the head of one of our leading universities said that agriculture needs as competent scholars and as well trained scientists as any other industry or profession. The foregoing is an indication of how well this task is being performed.

A Changing Viewpoint

Moreover, this was not always the case. The early agricultural colleges were little more than vocational schools and the subjects of the curricula were as numerous as the many-sided activities of the farm. Schools of vocational agriculture may be even more important than so-called "institutions of higher learning", and there is still need for improvement in vocational school training. But today there is a wider recognition of the fact that the two require a different view point, different methods and a different direction. Formerly, highly technical and scientific posts had to be manned by the better trained graduates of other Faculties. Today the most scientific and complicated problems are attacked with success by our own graduates, reinforced by advanced training, which is now widely available. In other words, the courses now offered provide a sound fundamental training at least on a par with that furnished by the older faculties, and, in addition, they furnish specialists with an insight into and a practical knowledge of the problems of agriculture.

Furthermore, rapidly expanding departments and the demands of "the market" formerly forced a too early specialization. With the passing of this phase, it has become possible to defer specialization to the later years or to relegate it to graduate courses.

Keeping Up with Modern Trends

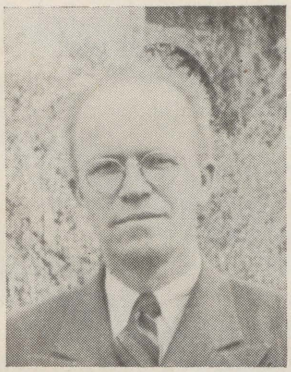
It has long been recognized that the creative research worker was rather a rare individual, requiring not only special aptitude, but long and careful training. It does not seem to have been recognized so clearly or so early that the really outstanding extension worker is quite as hard to find, requires other and different aptitudes and possesses techniques which can and should be learned. Macdonald has recently made a promising start towards supplying this need. In addition to fundamental work in the plant and animal sciences and to the subject matter of plant and animal production, we have added, in our new course in general agriculture, an emphasis in the economic and social sciences, and, with it, we endeavour to introduce the student to modern methods of directing and moulding public opinion in the field of improved agriculture, of community development and agricultural organization, employing those techniques and media that we have found to be effective in our own extension work.

It is unfortunate that, during their high school years, promising students from our farms rarely have called to their attention the advantages of a career in agriculture. Usually their teachers or other advisors direct their attention to some other business or profession, in entering which they sacrifice a vocational training of rare quality which every farm boy receives. It is true that many boys, in leaving school, have no clear "call" to any particular field of work, with the result that there is a considerable "wastage" from all faculties. There is evidence that this wastage is actually less from this faculty than from certain other professional courses. Even the brightest student can usually find full scope for all his ability, skill and imagination in some branch of agriculture. The small number that develop other interests do not find their time wasted, since the fundamental training in the basic sciences provided by the course in Agriculture forms a suitable preparation for some other profession. This is notably true of medicine, which, like agriculture, deals with living organisms in health and disease.

While all this is gratifying, it should be emphasized that the duty of a Faculty of Agriculture is to train students to make a contribution in the field of agriculture, and not to provide an alternative route to some other profession. Faculty members realize the necessity of adapting courses to the changing times, and it is believed that if our legislators realize national needs with equal clarity, there will be need and use for all the qualified students that we can supply.

The Farm Boy's Opportunity

by L. H. Hamilton Director of Diploma Courses



The kind of farmers who are wanted now are those who can show a substantial return for their year's work and who can build up their land and their stock. Efficient business men are needed in the marketing of farm produce; good thinkers are wanted in farmers' clubs, in municipal councils, and in our legislative assemblies. To the young farmer of to-day who has fitted himself for his calling great things are possible.

This statement, which is especially true at present, will also be true for many years to come. The importance of agriculture in our national economy has never been more thoroughly understood and its problems more appreciated. Rationing at home and starvation in many foreign countries emphasises and keeps fresh in our minds the importance of food production. In the producing, marketing and processing of farm crops, new discoveries are being made, new problems are being encountered and new emphasis is being given to certain lines. All this tends to complicate and make more difficult the job of farming. This is especially true of those farmers who rely upon experience and established practice for their success. It also brings into focus the importance of adequate training for those who are to set the example and provide the leadership in the various farm communities.

Since its foundation, Macdonald College has not only been interested in, but has been actively engaged, in building up our rural communities, by providing educational facilities, supporting better farming methods and encouraging community enterprise. This programme has played a vital part in maintaining and improving the efficiency of our farmers and providing the leadership so necessary in maintaining a healthy community life.

During the war, many of our young men have left the farms; the demands for increased production have tended to keep many farm boys and girls away from school and the scarcity of teachers has had a more pronounced effect in rural districts than elsewhere.

This will continue for the duration. It is one of the costs involved in war. We must not, however, continue to neglect the schooling and training necessary for efficient farming. The importance of this can be seen if one travels through even a few communities. In some, the school facilities are good, the boys for the most part follow farming and in preparation for this a large percentage attend some course at an agricultural college. This community is known for its good farmers and the good farm practice followed. In other communities, the school facilities are not so good. Attendance at school is irregular and the pupils leave at an early age. They seldom have much interest in agriculture and seek opportunity elsewhere. Their success is limited.

At the present time and probably for many years to come, more and more farm products will be necessary to feed our own and other peoples. This provides the opportunity as well as the challenge to produce efficiently; to take advantage of this opportunity it is necessary that we use all our facilities and equip ourselves thoroughly for the job.

The Diploma Course, extending from November to April, will help every farm boy who has the opportunity of attending. It provides that extra equipment which is so necessary in building our master farmers.

A. R. B. Lockhart leaves the School for Teachers

After forty years of service to the educational life of the Province of Quebec, of which the past twenty-four years were spent as a member of the staff of the School for Teachers, Mr. A. R. B. Lockhart has resigned on account of ill health.

A graduate of McGill, Mr. Lockhart took postgraduate work at Teachers' College, Columbia University, where he obtained his M.A. degree. He also had a First Class School Inspector's Certificate. His teaching experience was very broad and his familiarity with the problems which students have to face after their year of training added greatly to the effectiveness of his work in the lecture room and as a critic of their teaching.

He has held office and served on many committees of the Teachers' Association and is the author of many educational articles. He has also given frequent addresses to various educational and social service groups. As a result of his provincial activities, he was unanimously appointed an honorary life member of the P.A.P.T.

His withdrawal from the staff will leave a gap which will be very hard to fill. All the members of the staff feel that they are losing an agreeable colleague and an intimate friend whose help was always at their disposal and whose profound knowledge of Quebec conditions was of great assistance in solving many problems. It is to be hoped that freedom from strenuous labour will enable Mr. Lockhart to regain his usual health and strength and that he and Mrs. Lockhart will enjoy many happy years of well earned leisure.

FARMERS HAVING TAXABLE INCOMES MUST MAKE INCOME TAX RETURNS

for 1942

ARE YOU TAXABLE? — *Use this test to find out:*

1. List your 1942 farm receipts (including the value of saleable farm produce which has been used in your home) and add them together.

2. List your 1942 farm expenses (including depreciation) and add them together.

3. Subtract the total of your farm expenses from your farm receipts. The remainder is the *net income of your farm.*

4. Add to the net income of your farm, your 1942 net income from non-farm sources, if any. The *result is your total net income.*

YOU ARE TAXABLE . . . IF SINGLE and your total net income exceeded $660.00
MARRIED and your total net income exceeded $1200.00

ALL RETURNS MUST BE MADE NOT LATER THAN 30th JUNE

If you are taxable, this is a job you must do along with thousands of other Canadian taxpayers. Income Tax is fair to all. Everyone pays according to income.

Under the new system introduced this year, Income Tax is now on a pay-as-you-earn basis. Reduction of the 1942 Tax made this possible.

The larger part of the reduced tax should have been paid by the 1942 instalment payments. One-third of any balance must be paid by 30th June and the remainder on or before 31st December, 1943.

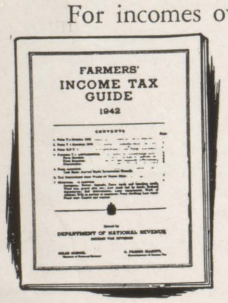
Part of your tax is savings to be returned with interest after the war.

You Calculate Your Income . . .

AND THE NEW SIMPLIFIED FORM WILL CALCULATE YOUR TAX

For incomes not over $3000, get two (2) copies each of simplified Form T. 1 Special and Farmers T. 1 Supplemental. The T. 1 Supplemental itemizes all forms of farm receipts and expenses and is a guide for determining your actual net income.

For incomes over $3000, get three (3) copies each of Form T. 1 General and Farmers T. 1 Supplemental. Forms may be secured from your local Post Office or District Inspector of Income Tax.



To help you fill out your Income Tax forms a booklet ("Farmers' Income Tax Guide, 1942") has been prepared to cover the special conditions which apply to farm operations. It can be obtained free on request from your District Inspector. If you don't know his address, just mail your letter to "District Inspector of Dominion Income Tax."

Make your returns NOW! — Avoid Penalties!

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DOMINION OF CANADA—DEPARTMENT OF NATIONAL REVENUE

INCOME TAX DIVISION

COLIN GIBSON,
Minister of National Revenue

C. FRASER ELLIOTT,
Commissioner of Income Tax

Hog carcass weight depends upon

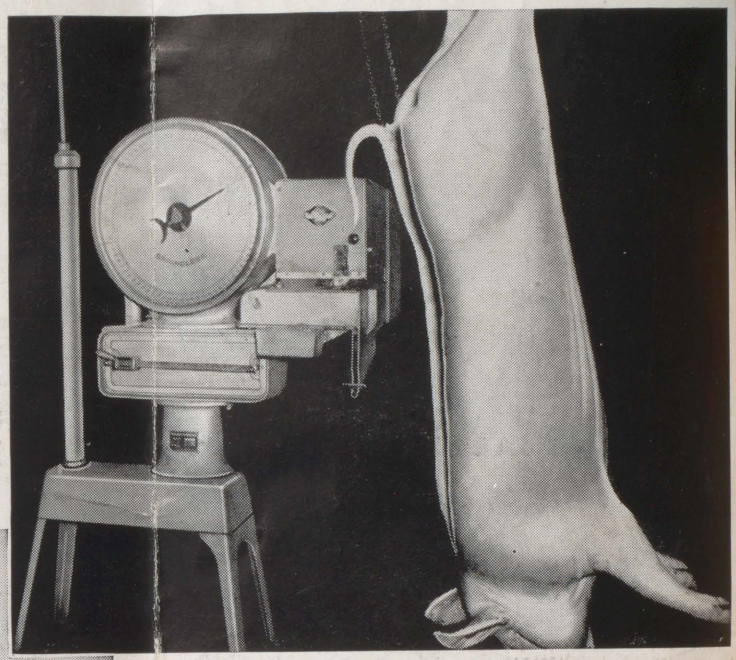
LIVE HOG WEIGHT & CARCASS YIELD

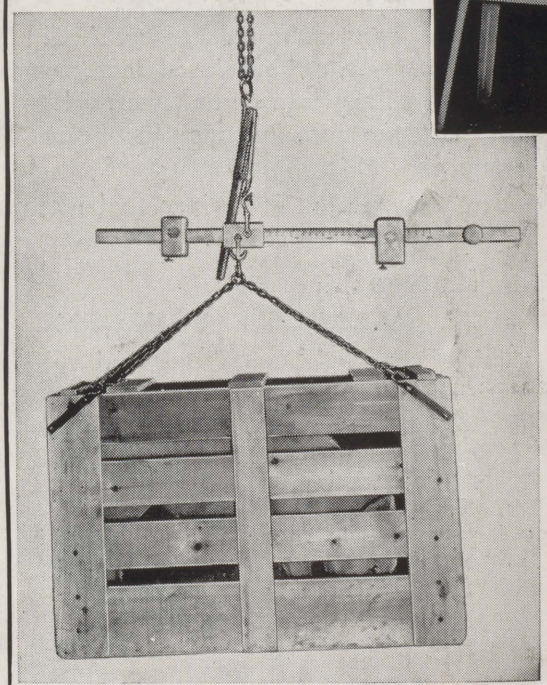
CARCASS WEIGHT

Accurate carcass weight is provided by the automatic self-registering scale in the abattoir, which is regularly checked by the official grader.

CARCASS YIELD or DRESSING PERCENTAGE

The average carcass weight for all hogs is about 75% of the live weight, but it ranges from below 70% to over 80% in individual cases.





This specially-designed pig scale can be secured at cost from the Dominion Department of Agriculture.

LOW YIELDS may be due to — Calculating from a live hog weight taken soon after feeding— Considerable lapse of time between weighing hogs and weighing carcasses — Hogs being thin or small — Rough handling — Exposure — Pregnancy.

YIELDS WHICH APPEAR TOO LOW may be due to — Inaccurate live weight — Inaccurate identification of hogs.

EACH HOG PRODUCER SHOULD

1. Assure returns on his own hogs by insisting that every hog is properly tattooed before shipment and the correct information recorded for the official grader.
2. Get accurate live weight by weighing each hog individually at home; by careful balancing and operation of stock scales at shipping point; by making correct deductions if hogs must be weighed in crate or vehicle.

Careful consideration of these points will assist the producer in correctly interpreting his hog carcass statements and eliminate much misunderstanding.

For further information consult your Provincal Department of Agriculture, Agricultural College, nearest Dominion Experimental Farm or Live Stock Office of the Dominion Department of Agriculture.

181S

AGRICULTURAL SUPPLIES BOARD
Dominion Department of Agriculture, Ottawa
Honourable James G. Gardiner, Minister